

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------------------------|---------------|-----------------------------------|----------------------|---------------------------------|-------------------|-----------------------|-------------------------------|------------|----------------|------------|-------------------|------------|----------------|------------|------------------------|------------|-----------------------------|------------|---------------------|------------|------------------|------------|
| NATURE OF CONVEYANCE: | SECURITY AGREEMENT | | | | | | | | | | | | | | | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Intersil Corporation</td><td>04/27/2010</td></tr><tr><td>Techwell, Inc.</td><td>04/27/2010</td></tr><tr><td>Intersil Communications, Inc.</td><td>04/27/2010</td></tr><tr><td>Quellan, Inc.</td><td>04/27/2010</td></tr><tr><td>Zilker Labs, Inc.</td><td>04/27/2010</td></tr><tr><td>Kenet, Inc.</td><td>04/27/2010</td></tr><tr><td>Intersil Americas Inc.</td><td>04/27/2010</td></tr><tr><td>Elantec Semiconductor, Inc.</td><td>04/27/2010</td></tr><tr><td>D2Audio Corporation</td><td>04/27/2010</td></tr><tr><td>Planet Ate, Inc.</td><td>04/27/2010</td></tr></tbody></table> | | Name | Execution Date | Intersil Corporation | 04/27/2010 | Techwell, Inc. | 04/27/2010 | Intersil Communications, Inc. | 04/27/2010 | Quellan, Inc. | 04/27/2010 | Zilker Labs, Inc. | 04/27/2010 | Kenet, Inc. | 04/27/2010 | Intersil Americas Inc. | 04/27/2010 | Elantec Semiconductor, Inc. | 04/27/2010 | D2Audio Corporation | 04/27/2010 | Planet Ate, Inc. | 04/27/2010 |
| Name | Execution Date | | | | | | | | | | | | | | | | | | | | | | |
| Intersil Corporation | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Techwell, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Intersil Communications, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Quellan, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Zilker Labs, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Kenet, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Intersil Americas Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Elantec Semiconductor, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| D2Audio Corporation | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| Planet Ate, Inc. | 04/27/2010 | | | | | | | | | | | | | | | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"><tr><td>Name:</td><td>Morgan Stanley & Co. Incorporated</td></tr><tr><td>Street Address:</td><td>One Pierrepont Plaza, 7th Floor</td></tr><tr><td>Internal Address:</td><td>300 Cadman Plaza West</td></tr><tr><td>City:</td><td>Brooklyn</td></tr><tr><td>State/Country:</td><td>NEW YORK</td></tr><tr><td>Postal Code:</td><td>11201</td></tr></table> | | Name: | Morgan Stanley & Co. Incorporated | Street Address: | One Pierrepont Plaza, 7th Floor | Internal Address: | 300 Cadman Plaza West | City: | Brooklyn | State/Country: | NEW YORK | Postal Code: | 11201 | | | | | | | | | | |
| Name: | Morgan Stanley & Co. Incorporated | | | | | | | | | | | | | | | | | | | | | | |
| Street Address: | One Pierrepont Plaza, 7th Floor | | | | | | | | | | | | | | | | | | | | | | |
| Internal Address: | 300 Cadman Plaza West | | | | | | | | | | | | | | | | | | | | | | |
| City: | Brooklyn | | | | | | | | | | | | | | | | | | | | | | |
| State/Country: | NEW YORK | | | | | | | | | | | | | | | | | | | | | | |
| Postal Code: | 11201 | | | | | | | | | | | | | | | | | | | | | | |
| PROPERTY NUMBERS Total: 113 | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Patent Number:</td><td>5128564</td></tr><tr><td>Patent Number:</td><td>5179355</td></tr><tr><td>Patent Number:</td><td>5321371</td></tr><tr><td>Patent Number:</td><td>5334883</td></tr><tr><td>Patent Number:</td><td>5341047</td></tr><tr><td>Patent Number:</td><td>5351012</td></tr><tr><td></td><td></td></tr></tbody></table> | | Property Type | Number | Patent Number: | 5128564 | Patent Number: | 5179355 | Patent Number: | 5321371 | Patent Number: | 5334883 | Patent Number: | 5341047 | Patent Number: | 5351012 | | | | | | | | |
| Property Type | Number | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5128564 | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5179355 | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5321371 | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5334883 | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5341047 | | | | | | | | | | | | | | | | | | | | | | |
| Patent Number: | 5351012 | | | | | | | | | | | | | | | | | | | | | | |
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PATENT
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| Patent Number: | 5352987 |
| Patent Number: | 5352989 |
| Patent Number: | 5374898 |
| Patent Number: | 5389840 |
| Patent Number: | 5418495 |
| Patent Number: | 5420542 |
| Patent Number: | 5426396 |
| Patent Number: | 5430670 |
| Patent Number: | 5469104 |
| Patent Number: | 5469106 |
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| Patent Number: | 5528303 |
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| Patent Number: | 5793126 |
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| Patent Number: | 5867222 |
| Patent Number: | 5874865 |
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| Patent Number: | 5985728 |
| Patent Number: | 6031424 |
| Patent Number: | 6037239 |
| Patent Number: | 6096621 |
| Patent Number: | 6140205 |
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| Patent Number: | 6229394 |
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| Patent Number: | 6448853 |
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| Patent Number: | 7030679 |
| Patent Number: | 7034781 |
| Patent Number: | 7053698 |
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| Patent Number: | 7068106 |
| Patent Number: | 7075362 |
| Patent Number: | 7106769 |
| Patent Number: | 7145391 |
| Patent Number: | 7215379 |
| Patent Number: | 7246199 |
| Patent Number: | 7250805 |
| Patent Number: | 7353333 |
| Patent Number: | 7378897 |
| Patent Number: | 7382807 |
| Application Number: | 11737068 |
| Patent Number: | 7562187 |
| Patent Number: | 7649410 |

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| Patent Number: | 7023268 |
| Patent Number: | 7061312 |
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| Patent Number: | 7167112 |
| Patent Number: | 7259618 |
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| Patent Number: | 7576606 |
| Patent Number: | 7584009 |
| Patent Number: | 7590251 |
| Application Number: | 12343317 |
| Application Number: | 11782702 |
| Application Number: | 12542634 |
| Application Number: | 10805594 |
| Application Number: | 10805574 |
| Application Number: | 10805596 |
| Application Number: | 10805590 |
| Application Number: | 10843852 |
| Application Number: | 12202355 |
| Application Number: | 12202356 |
| Application Number: | 12202358 |
| Application Number: | 12202359 |
| Application Number: | 12202360 |
| Application Number: | 12202361 |
| Application Number: | 11847449 |
| Application Number: | 12544806 |

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| Patent Number: | 6933746 |
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| Patent Number: | 7675310 |
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CORRESPONDENCE DATA

Fax Number: (650)813-4848

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 6508134800

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Address Line 2: 1095 Avenue of the Americas

Address Line 4: New York, NEW YORK 10036

NAME OF SUBMITTER:

Joshua H. Rawson

Total Attachments: 116

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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of April 27, 2010 (“Patent Security Agreement”), made by each of the signatories hereto (together with any other entity that may become a party hereto as provided herein, the “Grantors”), is in favor of MORGAN STANLEY & CO. INCORPORATED, as collateral agent (in such capacity, the “Collateral Agent”) for the Lenders (in such capacity, the “Assignee”).

W I T N E S S E T H:

WHEREAS, the Grantors are party to a Guarantee and Collateral Agreement dated as of April 27, 2010 (the “Guarantee and Collateral Agreement”) in favor of the Assignee pursuant to which the Grantors are required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Agents and the Lenders to enter into the Credit Agreement and to induce Lenders to make their respective extensions of credit to the Borrower thereunder and to induce the Qualified Counterparties to enter into the Specified Hedge Agreements and provide financial accommodation, each Grantor hereby agrees with the Collateral Agent, for the benefit of the Secured Parties, as follows:

SECTION 1. Defined Terms. Capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Guarantee and Collateral Agreement. For purposes of this Patent Security Agreement, the term “Patents” shall mean, collectively, patents, patent applications, certificates of inventions, industrial designs (whether established or registered or recorded in the United States or any other country or any political subdivision thereof), including, without limitation, each issued patent and patent application identified on Schedule 1 hereto, together with any and all (i) inventions and improvements described and claimed therein, (ii) reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof and amendments thereto, (iii) income, fees, royalties, damages, claims and payments now or hereafter due and/or payable thereunder and with respect thereto, including, without limitation, damages, claims and payments for past, present and future infringements, dilutions, misappropriations, or other violations thereof, (iv) rights to sue or otherwise recover for past, present and future infringements, misappropriations, dilutions or other violations thereof and (v) rights corresponding thereto throughout the world.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Grantor hereby grants to the Collateral Agent, for the benefit of the Secured Parties, a security interest in all of the following property now owned or at any time hereafter acquired by such Grantor or in which such Grantor now has or at any time in the future may acquire any right, title or interest (collectively, the “Patent Collateral”), as collateral security for the prompt and complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of all Obligations:

(a) all Patents of such Grantor, including, without limitation, the registered and applied-for Patents of such Grantor listed on Schedule 1 attached hereto; and

(b) to the extent not covered by clause (a), all Proceeds of any of the foregoing;

provided, that (i) this Agreement shall not constitute a grant of a security interest in any property to the extent that and for as long as such grant of a security interest (A) is prohibited by any Requirement of Law, (B) requires a filing with or consent from any Governmental Authority pursuant to any Requirement of Law that has not been made or obtained, (C) constitutes a breach or default under or results in the termination of, or requires any consent not obtained under, any contract, property rights, lease, license or agreement, instrument or other document except to the extent that such Requirement of Law or provisions of any such contract, property rights, lease, license or agreement, instrument or other document is ineffective under applicable law or would be ineffective under Sections 9-406, 9-407, 9-408 or 9-409 of the New York UCC to prevent the attachment of the security interest granted hereunder, (D) is in any United States Trademark applications filed on the basis of a Grantor's intent-to-use such mark, in each case, unless and until evidence of the use of such Trademark in interstate commerce is submitted to the PTO, but only if and to the extent that the granting of a security interest in such application would result in the invalidation of such application, provided, that to the extent such application is excluded from the Collateral, upon the submission of evidence of use of such Trademark to the PTO, such Trademark application shall automatically be included in the Collateral, without further action on any party's part, (E) is in Capital Stock which is specifically excluded from the definition of Pledged Stock by virtue of the provisos to such definition, (F) is in motor vehicles or other assets in which a security interest may be perfected only through compliance with a certificate of title or similar statute, (G) is in any Margin Stock owned by the Borrower or MergerSub, (H) is in any Collateral owned by Techwell, Inc. or its Subsidiaries until such time as Techwell, Inc. is a wholly-owned Subsidiary of Borrower and (I) is in any Intercompany Note issued by Intersil Europe S  rl to Intersil Communications, Inc. in connection with the Permitted Reorganization; and (ii) the security interest granted hereby (A) shall attach at all times to all proceeds of such property, (B) shall attach to such property immediately and automatically (without need for any further grant or act) at such time as the condition described in clause (i) ceases to exist and (C) to the extent severable shall in any event attach to all rights in respect of such property that are not subject to the applicable condition described in clause (i).

SECTION 3. Guarantee and Collateral Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with security interest granted to the Assignee pursuant to the Guarantee and Collateral Agreement and Grantors hereby acknowledge and affirm that the rights and remedies of the Assignee with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Guarantee and Collateral Agreement. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Guarantee and Collateral Agreement, the provisions of the Guarantee and Collateral Agreement shall govern.

SECTION 4. Recordation. Each Grantor hereby authorizes and requests that the Commissioner of Patents and Trademarks record this Patent Security Agreement.

SECTION 5. Termination. (a) At such time as the Loans, the Reimbursement Obligations and all other Obligations (other than Unasserted Contingent Obligations and obligations (other than Unasserted Contingent Obligations) under or in respect of Hedge Agreements) have been paid in full (including, with respect to any Letters of Credit, either the deposit of cash collateral in an amount equal to 105% of the outstanding L/C Obligations or the delivery of a "backstop" Letter of Credit reasonably satisfactory to the Issuing Lender in its sole discretion), all commitments to extend credit under the Loan Documents have terminated, the Collateral shall be released from the Liens created hereby, and this Agreement and all obligations (other than those expressly stated to survive such termination) of the Collateral Agent and each Grantor hereunder shall terminate, all without delivery of any instrument or performance of any act by any party, and all rights to the Collateral shall revert to the Grantors. At the request and sole expense of any Grantor following any such termination, the Collateral Agent shall deliver to such Grantor any Collateral held by the Collateral Agent hereunder and execute and deliver to such Grantor such documents (in form and substance reasonably satisfactory to the Collateral Agent) as such Grantor may reasonably request to evidence such termination.

(b) If any of the Collateral is sold, transferred or otherwise disposed of by any Grantor in a transaction permitted by the Credit Agreement, then the Lien created pursuant to this Agreement in such Collateral shall be released, and the Collateral Agent, at the request and sole expense of such Grantor, shall execute and deliver to such Grantor all releases or other documents reasonably necessary or desirable for the release of such Collateral (not including Proceeds thereof) from the security interests created hereby. At the request and sole expense of the Borrower, a Subsidiary Guarantor shall be released from its obligations hereunder in the event that all the Capital Stock of such Subsidiary Guarantor shall be sold, transferred or otherwise disposed of in a transaction permitted by the Credit Agreement; provided that the Borrower shall have delivered to the Collateral Agent, at least ten Business Days prior to the date of the proposed release, a written request for release identifying the relevant Subsidiary Guarantor and the terms of the sale or other disposition in reasonable detail, including the price thereof and any expenses in connection therewith, together with a certification by the Borrower stating that such transaction is in compliance with the Credit Agreement and the other Loan Documents.

SECTION 6. GOVERNING LAW. THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

SECTION 7. Counterparts. This Agreement may be executed by one or more of the parties to this Agreement on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. Delivery of an executed signature page of this Agreement by facsimile transmission or electronic transmission (in PDF format) shall be effective as delivery of a manually executed counterpart hereof. A set of the copies of this Agreement signed by all the parties shall be lodged with the Borrower, the Administrative Agent and the Collateral Agent.

IN WITNESS WHEREOF, each Grantor has caused this PATENT SECURITY AGREEMENT to be executed and delivered by its duly authorized officer as of the date first above written.

INTERSIL CORPORATION

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

TECHWELL, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

INTERSIL COMMUNICATIONS, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

QUELLAN, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

ZILKER LABS, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

[Signature Page to Patent Security Agreement]

KENET, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

INTERSIL AMERICAS INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

ELANTEC SEMICONDUCTOR, INC.

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

D2AUDIO CORPORATION

By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

PLANET ATE, INC.

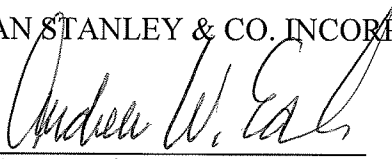
By: Douglas A. Balog
Name: Douglas A. Balog
Title: Assistant Secretary

[Signature Page to Patent Security Agreement]

Accepted and Agreed:

MORGAN STANLEY & CO. INCORPORATED, AS ASSIGNEE

By:


Name: ANDREW EALES
Title: AUTHORIZED SIGNATORY

[Signature Page to Patent Security Agreement]

PATENT
REEL: 024337 FRAME: 0407

PATENTS

Patent Registrations and Applications

Intersil Corporation – U.S. Registered Patents and Pending Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| APPARATUS AND METHOD FOR MINIMIZING SPURIOUS HARMONIC NOISE IN SWITCHED CURRENT STEERING ARCHITECTURES | United States | 6794924 | 21-Sep-2004 | Granted |
| PRECISION LOOP VOLTAGE DETECTOR FOR SUBSCRIBER LINE INTERFACE CIRCUIT APPLICATIONS | United States | 6469519 | 22-Oct-2002 | Granted |
| PACKAGE FOR INTEGRATED CIRCUIT WITH THERMAL VIAS AND METHOD THEREOF | United States | 6809416 | 26-Oct-2004 | Granted |
| PACKAGE FOR INTEGRATED CIRCUIT WITH THERMAL VIAS AND METHOD THEREOF | United States | 6861283 | 01-Mar-2005 | Granted |
| TRANSMITTER WITH LIMITED SPECTRAL REGROWTH AND METHOD THEREFOR | United States | 7113551 | 26-Sep-2006 | Granted |
| MULTIPHASE CONVERTER WITH ZERO VOLTAGE SWITCHING | United States | 7138789 | 21-Nov-2006 | Granted |

Intersil Corporation – Foreign Registered Patents and Patent Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|-------------------------|----------------------------|---------|
| PROCESS FOR DOPING TWO LEVELS OF A DOUBLE POLY BIPOLAR TRANSISTOR AFTER FORMATION OF SECOND POLY LAYER | JP | 4174579 | 29-Aug-2008 | Granted |
| RE-SAMPLING CIRCUIT AND ASSOCIATED METHOD | CN | 98104209.0 | 24-Sep-2003 | Granted |
| RE-SAMPLING CIRCUIT AND ASSOCIATED METHOD | JP | 3982594 | 13-Jul-2007 | Granted |
| RE-SAMPLING CIRCUIT AND ASSOCIATED METHOD | KR | 484710 | 13-Apr-2005 | Granted |
| RE-SAMPLING CIRCUIT AND ASSOCIATED METHOD | TW | NI-120117 | 11-Sep-2000 | Granted |
| DC-DC CONVERTER HAVING DYNAMIC | KR | 545867 | 18-Jan- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | | | 2006 | |
| DC-DC CONVERTER HAVING DYNAMIC REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | TW | NI-124761 | 11-Jan- 2001 | Granted |
| DC-DC CONVERTER HAVING DYNAMIC REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | JP | 4077556 | 16-Apr- 2008 | Granted |
| DC-DC CONVERTER HAVING DYNAMIC REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | CN | 98115283.X | 30-Jul-2003 | Granted |
| DC-DC CONVERTER HAVING DYNAMIC REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | DE | EP0893876 | 09-Apr- 2003 | Granted |
| LOOP IMPEDANCE MEASURING APPARATUS AND METHOD FOR SUBSCRIBER LOOP INTERFACE CIRCUITS | DE | 60020461.8 | 01-Jun- 2005 | Granted |
| LOOP IMPEDANCE MEASURING APPARATUS AND METHOD FOR SUBSCRIBER LOOP INTERFACE CIRCUITS | EP | 1079591 | 01-Jun- 2005 | Granted |
| BATTERY SWITCHING SUBSCRIBER LOOP INTERFACE CIRCUIT | EP | 0957626 | 09-Aug- 2006 | Granted |
| BATTERY SWITCHING SUBSCRIBER LOOP INTERFACE CIRCUIT | DE | 0957626 | 09-Aug- 2006 | Granted |
| DIGITAL-TO-ANALOG CONVERTER INCLUDING CURRENT CELL MATRIX WITH ENHANCED LINEARITY AND ASSOCIATED METHODS | DE | 0898374 | 03-Jan- 2007 | Granted |
| DIGITAL-TO-ANALOG CONVERTER INCLUDING CURRENT CELL MATRIX WITH ENHANCED LINEARITY AND ASSOCIATED METHODS | FR | 0898374 | 03-Jan- 2007 | Granted |
| DIGITAL-TO-ANALOG CONVERTER INCLUDING CURRENT CELL MATRIX WITH ENHANCED LINEARITY AND ASSOCIATED METHODS | GB | 0898374 | 03-Jan- 2007 | Granted |
| DC-TO-DC CONVERTER WITH INDUCTOR CURRENT SENSING AND RELATED METHODS | TW | NI-152003 | 03-Mar- 2003 | Granted |
| DC-TO-DC CONVERTER WITH INDUCTOR CURRENT SENSING AND RELATED METHODS | JP | 3254199 | 22-Nov- 2001 | Granted |
| PARASITIC CURRENT BARRIERS | FR | 0982775 | 19-Jan- 2005 | Granted |
| PARASITIC CURRENT BARRIERS | DE | 0982775 | 19-Jan- 2005 | Granted |
| PARASITIC CURRENT BARRIERS | GB | 0982775 | 19-Jan- 2005 | Granted |

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|---|--------------|-------------------------|-------------------------------|---------|
| PARASITIC CURRENT BARRIERS | IT | 0982775 | 19-Jan-2005 | Granted |
| ACCESSING MAIN ATX OUTPUTS WITHOUT MONITORING ALL OUTPUTS | CN | 00106914.4 | 29-Jul-2005 | Granted |
| ACCESSING MAIN ATX OUTPUTS WITHOUT MONITORING ALL OUTPUTS | TW | NI-153806 | 06-Aug-2002 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | FR | 1065727 | 24-May-2006 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | IT | 1065727 | 24-May-2006 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | DE | 1065727 | 24-May-2006 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | EP | 1065727 | 24-May-2006 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | KR | 10-619621 | 28-Aug-2006 | Granted |
| CURRENT MODE DC/DC CONVERTER WITH CONTROLLED OUTPUT IMPEDANCE | CN | ZL00126459 | 07-Sep-2005 | Granted |
| CURRENT MODE DC/DC CONVERTER WITH CONTROLLED OUTPUT IMPEDANCE | TW | NI-158315 | 01-Jul-2002 | Granted |
| CURRENT MODE DC/DC CONVERTER WITH CONTROLLED OUTPUT IMPEDANCE | KR | 10-0596555 | 27-Jun-2006 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | KR | 10-0573520 | 18-Apr-2006 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | CN | ZL00126460 | 11-May-2005 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | TW | 173702 | 11-Jan-2003 | Granted |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | KR | 550401 | 02-Feb-2006 | Granted |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | CN | ZL00126094 | 13-Apr-2005 | Granted |
| BACKWARDS DRIVABLE MOS OUTPUT DRIVER | KR | 10-0643041 | 31-Oct-2006 | Granted |
| BACKWARDS DRIVABLE MOS OUTPUT DRIVER | TW | NI-154980 | 11-May-2002 | Granted |
| METHODS TO CONTROL THE DROOP WHEN POWERING DUAL MODE PROCESSORS AND ASSOCIATED CIRCUITS | TW | NI-171825 | 10-Jun-2003 | Granted |
| OSCILLATOR HAVING REDUCED SENSITIVITY TO SUPPLY VOLTAGE CHANGES | TW | NI-163253 | 11-Sep-2002 | Granted |
| CASCADABLE, HIGH EFFICIENCY CHARGE PUMP CIRCUIT AND RELATED METHODS | TW | NI-221697 | 01-Oct-2004 | Granted |
| DC TO DC CONVERTER METHOD AND | TW | NI-177896 | 21-May- | Granted |

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| CIRCUITRY | | | 2003 | |
| DC TO DC CONVERTER METHOD AND CIRCUITRY | CN | ZL01810047 | 16-Jul-2008 | Granted |
| INTEGRATED CIRCUIT WITH CURRENT-LIMITED POWER OUTPUT AND ASSOCIATED METHOD | TW | NI-173429 | 11-Mar-2003 | Granted |
| INTEGRATED CIRCUIT WITH CURRENT SENSE CIRCUIT AND ASSOCIATED METHODS | TW | I238927 | 01-Sep-2005 | Granted |
| SYNTHETIC RIPPLE REGULATOR | CN | CN100454738 | 21-Jan-2009 | Granted |
| SYNTHETIC RIPPLE REGULATOR | JP | 3981083 | 06-Jul-2007 | Granted |
| SYNTHETIC RIPPLE REGULATOR | FR | 1472777 | 08-Mar-2006 | Granted |
| SYNTHETIC RIPPLE REGULATOR | TW | I248249 | 21-Jan-2006 | Granted |
| SYNTHETIC RIPPLE REGULATOR | TW | NI-197364 | 16-Jun-2004 | Granted |
| SYNTHETIC RIPPLE REGULATOR | KR | 10-614841 | 16-Aug-2006 | Granted |
| SYNTHETIC RIPPLE REGULATOR | IT | 1472777 | 08-Mar-2006 | Granted |
| MATCHED IMPEDANCE BONDING TECHNIQUE IN HIGH-SPEED INTEGRATED CIRCUITS | TW | I251889 | 21-Mar-2006 | Granted |
| PHASED-LOCKED LOOP WITH ANALOG PHASE ROTATOR | DE | P60216475.3 | 29-Nov-2006 | Granted |
| PACKAGE FOR INTEGRATED CIRCUIT WITH THERMAL VIAS AND METHOD THEREOF | TW | I226687 | 11-Jan-2005 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | DE | 69114531.8 | 15-Nov-1995 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | JP | 2992843 | 22-Oct-1999 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | GB | 0441270 | 15-Nov-1995 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | FR | 0441270 | 15-Nov-1995 | Granted |
| LOW OFFSET UNITY GAIN BUFFER AMPLIFIER | JP | 3235084 | 28-Sep-2001 | Granted |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | KR | 292851 | 27-Mar-2001 | Granted |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | JP | 3798808 | 28-Apr-2006 | Granted |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | IT | 0555407 | 15-May-1996 | Granted |
| STACKED CONFIGURATION FOR | GB | 0555407 | 15-May- | Granted |

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| INTEGRATED CIRCUITS DEVICES | | | 1996 | |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | FR | 0555407 | 15-May- 1996 | Granted |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | DE | 0555407 | 15-May- 1996 | Granted |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | EP | 0555407 | 15-May- 1996 | Granted |
| TELEPHONE SUBSCRIBER LINE CIRCUIT, COMPONENTS AND METHODS | DE | 69303163.8 | 12-Jun- 1996 | Granted |
| BACKWARDS DRIVABLE MOS OUTPUT DRIVER | JP | 2000/348984 | 16-Nov- 2000 | Published |
| DC TO DC CONVERTER METHOD AND CIRCUITRY | CN | 10098553 | 02-May- 2001 | Pending |
| DC TO DC CONVERTER METHOD AND CIRCUITRY | DE | 10196149.9 | 02-May- 2001 | Pending |
| INTEGRATED CIRCUIT WITH A MOS STRUCTURE HAVING REDUCED PARASITIC BIPOlar TRANSISTOR ACTION | WO | US02/32121 | 08-Oct- 2002 | Pending |
| INTEGRATED CIRCUIT WITH A MOS STRUCTURE HAVING REDUCED PARASITIC BIPOlar TRANSISTOR ACTION | JP | 2003-537124 | 12-Apr- 2004 | Pending |
| INTEGRATED CIRCUIT WITH A MOS STRUCTURE HAVING REDUCED PARASITIC BIPOlar TRANSISTOR ACTION | EP | 02778470.1 | 14-Apr- 2004 | Pending |
| N-WAY CIRCULAR PHASE INTERPOLATOR FOR GENERATING A SIGNAL HAVING ARBITRARY PHASE | EP | 01302646.3 | 22-Mar- 2001 | Pending |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | JP | 2006-49228 | 24-Feb- 2006 | Pending |
| DIGITAL COMPONENT TESTING APPARATUS AND METHOD | KR | 1994-702977 | 19-Feb- 1993 | Pending |
| DIGITAL COMPONENT TESTING APPARATUS AND METHOD | JP | 5514997 | 19-Feb- 1993 | Pending |

Techwell, Inc.

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|--|---------------|-------------------------|-------------|---------|
| Timing Error Detector for Vestigial Side Band | United States | US 7474990 | 09/29/2006 | Granted |
| Carrier Phase Independent Symbol Timing Recovery Methods for VSB Receivers | United States | 12/349,454 | 01/06/2009 | Pending |
| Reducing Equalizer Error Propagation with a Low Complexity Soft Output Viterbi Decoder | United States | US 7697642 | 4/13/2010 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date | Status |
|--|---------------|-------------------------------------|-------------|---------|
| Dual PDFE System with Forward-Backward Viterbi | United States | US 7697604 | 04/17/2006 | Granted |
| Dual PDFE System with Forward-Backward Viterbi | WIPO | <u>PCT/US200</u> <u>7/009211</u> | | Pending |
| Mixed format media transmission systems and methods | United States | 12/363,669 | 01/30/2009 | Pending |
| Analog equalizer systems and methods for baseband video signals | United States | 12/698,061 | 02/01/2010 | Pending |
| Constellation detection in a multi-mode QAM communications system | United States | 12/698,066 | 02/01/2010 | Pending |
| Carrier phase offset correction for a QAM system | United States | 12/698,071 | 02/01/2010 | Pending |
| Novel frame structure for a QAM system | United States | 12/698,037 | 02/01/2010 | Pending |
| SLOC spot monitoring | United States | 12/698,041 | 02/01/2010 | Pending |
| Mixed format media transmission systems and methods | WIPO | PCT/US10/ 22772 | 02/01/2010 | Pending |
| Reducing equalizer error propagation with a low complexity soft output viterbi decoder | South Korea | 10-2008- 7025508 | 04/13/2007 | Pending |
| Dual PDFE system with forward-backward viterbi | South Korea | 10-2008- 7025509 | 04/13/2007 | Pending |
| <u>Mixed format media transmission systems and methods</u> | Taiwan | 99102857 | 02/01/2010 | Pending |
| SLOC Analog Equalizer for Baseband Video Signal | United States | 61/187,970 | 06/17/2009 | Pending |
| A Method for Constellation Detection in a Multi-Mode QAM Communications System | United States | 61/187,977 | 06/17/2009 | Pending |
| Novel Carrier Phase Offset Correction for a QAM System | United States | 61/187,980 | 06/17/2009 | Pending |
| Novel Frame Structure for a QAM System | United States | 61/187,986 | 06/17/2009 | Pending |
| SLOC Spot Monitoring | United States | 61/187,996 | 06/17/2009 | Pending |
| Display image enhancement apparatus and method using adaptive interpolation with correlation | Taiwan | TW 94101662 | | Granted |
| <u>Method for Determining the Step Size for an LMS Adaptive Equalizer for 8VSB</u> | United States | 11/687,909 | 03/19/2007 | Pending |

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|--|---------------------|---------------------------------|--------------------|---------------|
| <u>Method for Determining the Step Size for an LMS Adaptive Equalizer for 8VSB</u> | United States | US 7616685 | 07/11/2007 | Granted |
| <u>Image processing device and camera system</u> | Japan | JP 4418029 | | |

Quellan Inc. – U.S. Registered Patents and Patent Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| HIGH-SPEED ANALOG-TO-DIGITAL CONVERTER USING A UNIQUE GRAY CODE HAVING MINIMAL BIT TRANSITIONS | United States | 6816101 | 09-Nov-2004 | Granted |
| ADAPTIVE NOISE FILTERING AND EQUALIZATION FOR OPTIMAL HIGH SPEED MULTILEVEL SIGNAL DECODING | United States | 7035361 | 25-Apr-2006 | Granted |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | United States | 7050388 | 23-May-2006 | Granted |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | United States | 7123676 | 17-Oct-2006 | Granted |
| MULTILEVEL PULSE POSITION MODULATION FOR EFFICIENT FIBER OPTIC COMMUNICATION | United States | 7149256 | 12-Dec-2006 | Granted |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | United States | 7173551 | 06-Feb-2007 | Granted |
| MULTILEVEL SIGNAL CLOCK RECOVERY TECHNIQUE | United States | 7212580 | 01-May-2007 | Granted |
| METHOD AND SYSTEM FOR DECODING MULTILEVEL SIGNALS | United States | 7215721 | 08-May-2007 | Granted |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | United States | 7307569 | 11-Dec-2007 | Granted |
| MULTILEVEL PULSE POSITION MODULATION FOR EFFICIENT FIBER OPTIC COMMUNICATION | United States | 7352824 | 01-Apr-2008 | Granted |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | United States | 7366244 | 29-Apr-2008 | Granted |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | United States | 7522883 | 21-Apr-2009 | Granted |
| ADAPTIVE NOISE FILTERING AND EQUALIZATION FOR OPTIMAL HIGH SPEED | United States | 7573966 | 11-Aug-2009 | Granted |

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| MULTILEVEL SIGNAL DECODING | | | | |
| METHOD AND SYSTEM FOR DECODING MULTILEVEL SIGNALS | United States | 7602860 | 13-Oct-2009 | Granted |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATIONS | United States | 7626916 | 01-Dec-2009 | Granted |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | United States | 11/509112 | 23-Aug-2006 | Pending |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | United States | 12/652281 | 05-Jan-2010 | Pending |
| METHOD AND SYSTEM FOR SLICING A COMMUNICATION SIGNAL | United States | 12/578869 | 14-Oct-2009 | Pending |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | United States | 12/380654 | 02-Mar-2009 | Pending |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATIONS | United States | 12/581511 | 19-Oct-2009 | Published |
| ADAPTIVE NOISE FILTERING AND EQUALIZATION FOR OPTIMAL HIGH SPEED MULTILEVEL SIGNAL DECODING | United States | 12/583006 | 11-Aug-2009 | Published |
| PRE-CONFIGURATION AND CONTROL OF RADIO FREQUENCY NOISE CANCELLATION | United States | 12/177099 | 21-Jul-2008 | Pending |
| NOISE SAMPLING DETECTORS | United States | 12/236945 | 24-Sep-2008 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | United States | 12/069236 | 08-Feb-2008 | Pending |
| HIGH-SPEED ANALOG-TO-DIGITAL CONVERSION WITH IMPROVED ROBUSTNESS TO TIMING UNCERTAINTY | United States | 10/706187 | 12-Nov-2003 | Pending |
| METHOD AND SYSTEM FOR SLICING A COMMUNICATION SIGNAL | United States | 11/022112 | 22-Dec-2004 | Pending |
| METHOD AND SYSTEM FOR AUTOMATIC CONTROL IN AN INTERFERENCE CANCELLATION DEVICE | United States | 11/450543 | 09-Jun-2006 | Pending |
| METHOD AND SYSTEM FOR REDUCING RADIATED EMISSIONS FROM A COMMUNICATIONS CHANNEL | United States | 11/789899 | 26-Apr-2007 | Published |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | United States | 12/413454 | 27-Mar-2009 | Pending |
| POWER EXTRACTION FROM SIGNAL SINKS | United States | 12/476934 | 02-Jun-2009 | Pending |
| INTER-PAIR SKEW ADJUSTMENT | United States | 12/469450 | 20-May-2009 | Pending |
| DUPLEXER AND SWITCH ENHANCEMENT | United States | 12/432013 | 29-Apr-2009 | Pending |

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|--------------------------------|---------------------|---------------------------------|--|---------------|
| METHOD AND SYSTEM FOR DECODING | IL | 158211 | 30-Mar- | Granted |

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|---|--------------|-------------------------|-------------------------------|---------|
| MULTILEVEL SIGNALS | | | 2009 | |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | IL | 15686 | 08-Nov- 2008 | Granted |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | GB | 2421674 | 15-Nov- 2006 | Granted |
| METHOD AND SYSTEM FOR DECODING MULTILEVEL SIGNALS | EP | 02731304.8 | 28-Mar- 2002 | Pending |
| METHOD AND SYSTEM FOR DECODING MULTILEVEL SIGNALS | CA | 2442922 | 28-Mar- 2002 | Pending |
| METHOD AND SYSTEM FOR DECODING MULTILEVEL SIGNALS | WO | US02/11108 | 28-Mar- 2002 | Pending |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | WO | US01/50695 | 21-Dec- 2001 | Pending |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | CA | 2432801 | 21-Dec- 2001 | Pending |
| INCREASING DATA THROUGHPUT IN OPTICAL FIBER TRANSMISSION SYSTEMS | EP | 01994491.7 | 21-Dec- 2001 | Pending |
| HIGH-SPEED ADJUSTABLE MULTILEVEL LIGHT MODULATION | WO | US02/14459 | 09-May- 2002 | Pending |
| ADAPTIVE NOISE FILTERING AND EQUALIZATION FOR OPTIMAL HIGH SPEED MULTILEVEL SIGNAL DECODING | WO | US2003/022237 | 15-Jul- 2003 | Pending |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | JP | 2006-522704 | 05-Aug- 2004 | Pending |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | KR | 7002618/2006 | 05-Aug- 2004 | Pending |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | DE | 112004001455 | 05-Aug- 2004 | Pending |
| METHOD AND SYSTEM FOR CROSSTALK CANCELLATION | WO | 04/025232 | 05-Aug- 2004 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | EP | 04811319.5 | 17-Nov- 2004 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | JP | | 17-Nov- 2004 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | KR | 7012072/2006 | 17-Nov- 2004 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | WO | 04/038564 | 17-Nov- 2004 | Pending |
| METHOD AND SYSTEM FOR ANTENNA INTERFERENCE CANCELLATION | HK | 07101502.2 | 08-Feb- 2007 | Pending |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | WO | 05/045209 | 14-Dec- 2005 | Pending |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | EP | 05854008.9 | 14-Dec- 2005 | Pending |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | JP | 07-545730 | 14-Dec- 2005 | Pending |
| METHOD AND SYSTEM FOR REDUCING SIGNAL INTERFERENCE | KR | 7016135/2007 | 14-Dec- 2005 | Pending |

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|---|---------------------|---------------------------------|--|---------------|
| METHOD AND SYSTEM FOR AUTOMATIC CONTROL IN AN INTERFERENCE CANCELLATION DEVICE | JP | 08-515992 | 09-Jun-2006 | Pending |
| METHOD AND SYSTEM FOR AUTOMATIC CONTROL IN AN INTERFERENCE CANCELLATION DEVICE | WO | 06/022640 | 09-Jun-2006 | Pending |
| METHOD AND SYSTEM FOR AUTOMATIC CONTROL IN AN INTERFERENCE CANCELLATION DEVICE | TW | 95120762 | 12-Jun-2006 | Pending |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | WO | 06/033067 | 23-Aug-2006 | Pending |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | EP | 06802258.1 | 23-Aug-2006 | Pending |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | JP | 08-528149 | 23-Aug-2006 | Pending |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | KR | 7007089/2008 | 23-Aug-2006 | Pending |
| METHOD AND SYSTEM FOR SIGNAL EMULATION | HK | 08112987.2 | 27-Nov-2008 | Pending |
| METHOD AND SYSTEM FOR REDUCING RADIATED EMISSIONS FROM A COMMUNICATIONS CHANNEL | WO | 07/010237 | 26-Apr-2007 | Pending |
| METHOD AND SYSTEM FOR REDUCING RADIATED EMISSIONS FROM A COMMUNICATIONS CHANNEL | DE | 112996991945 | 26-Apr-2007 | Pending |
| METHOD AND SYSTEM FOR REDUCING RADIATED EMISSIONS FROM A COMMUNICATIONS CHANNEL | KR | 7026554-2008 | 26-Apr-2007 | Pending |
| METHOD AND SYSTEM FOR REDUCING RADIATED EMISSIONS FROM A COMMUNICATIONS CHANNEL | JP | 2009-507820 | 26-Apr-2007 | Pending |
| NOISE CANCELLATION FOR GPS ANTENNA MODULE | WO | 09/054500 | 20-Aug-2009 | Pending |
| NOISE CANCELLATION FOR GPS ANTENNA MODULE | TW | 98128166 | 20-Aug-2009 | Published |
| PRE-CONFIGURATION AND CONTROL OF RADIO FREQUENCY NOISE CANCELLATION | WO | 09/51208 | 21-Jul-2009 | Pending |
| NOISE SAMPLING DETECTORS | WO | 2009/057572 | 18-Sep-2009 | Pending |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | TW | 99107767 | 17-Mar-2010 | Pending |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | KR | 2010-0023665 | 17-Mar-2010 | Pending |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | CN | tbd | 26-Mar-2010 | Pending |
| FILTER SHAPING USING A SIGNAL CANCELLATION FUNCTION | EP | 10158086.8 | 26-Mar-2010 | Pending |
| POWER EXTRACTION FROM SIGNAL SINKS | TW | 99109006 | 26-Mar- | Pending |

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| | | | 2010 | |
| INTER-PAIR SKEW ADJUSTMENT | TW | 99109007 | 26-Mar-2010 | Pending |
| DUPLEXER AND SWITCH ENHANCEMENT | KR | 2010-0024227 | 18-Mar-2010 | Pending |

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|--|---------------|-------------------------|-------------------------------|---------|
| HARDWARE EFFICIENT DIGITAL CONTROL LOOP ARCHITECTURE FOR A POER CONVERTER | United States | 7239257 | 03-Jul-2007 | Granted |
| METHOD FOR ACCURATELY SETTING PARAMETERS INSIDE INTEGRATED CIRCUITS USING INACCURATE EXTERNAL COMPONENTS | United States | 7292019 | 06-Nov-2007 | Granted |
| CURRENT SENSE METHOD | United States | 7327130 | 05-Feb-2008 | Granted |
| METHOD AND APPARATUS FOR IMPROVED DC POWER DELIVERY, MANAGEMENT AND CONFIGURATION | United States | 7467309 | 16-Dec-2008 | Granted |
| METHOD AND APPARATUS FOR IMPROVED DC POWER DELIVERY, MANAGEMENT AND CONFIGURATION | United States | 7506179 | 17-Mar-2009 | Granted |
| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | United States | 7545131 | 09-Jun-2009 | Granted |
| ADAPTIVE THRESHOLDING TECHNIQUE FOR POWER SUPPLIES DURING MARGINING EVENTS | United States | 7568117 | 28-Jul-2009 | Granted |
| METHODS FOR ACCURATE CURRENT SENSING IN POWER CONVERTERS | United States | 7589514 | 15-Sep-2009 | Granted |
| METHOD FOR USING A MULTI-MASTER MULTI-SLAVE BUS FOR POWER MANAGEMENT | United States | 7653757 | 26-Jan-2010 | Granted |
| METHOD FOR ACCURATELY SETTING PARAMETERS INSIDE INTEGRATED CIRCUITS USING INACCURATE EXTERNAL COMPONENTS | United States | 7668607 | 23-Feb-2010 | Granted |
| AUTONOMOUS SEQUENCING AND FAULT SPREADING | United States | 7685320 | 23-Mar-2010 | Granted |
| POWER MANAGEMENT SYSTEM USING A MULTI-MASTER MULTI-SLAVE BUS AND MULTI-FUNCTION POINT-OF-LOAD REGULATOR | United States | 11/425489 | 26-Jun-2006 | Pending |
| METHOD AND APPARATUS FOR IMPROVED DC POWER DELIVERY, MANAGEMENT AND CONFIGURATION | United States | 11/405293 | 17-Apr-2006 | Pending |

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| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | United States | 12/477,706 | 03-Jun-2009 | Published |
| METHOD FOR USING A MULTI-MASTER MULTI-SLAVE BUS FOR POWER MANAGEMENT | United States | 11/405294 | 17-Apr-2006 | Pending |
| CONTROL SYSTEM OPTIMIZATION VIA INDEPENDENT PARAMETER ADJUSTMENT | United States | 12/118213 | 09-May-2008 | Pending |
| DEVICE-TO-DEVICE COMMUNICATION BUS FOR DISTRIBUTED POWER MANAGEMENT | United States | 12/505218 | 17-Jul-2009 | Published |
| ADAPTIVE COMPENSATION FOR DIGITAL POWER CONTROLLERS | United States | 12/118166 | 09-May-2008 | Pending |
| CONTROL SYSTEM OPTIMIZATION VIA ADAPTIVE FREQUENCY ADJUSTMENT | United States | 12/118260 | 09-May-2008 | Pending |
| CONTROL SYSTEM OPTIMIZATION VIA DIGITAL DIODE EMULATION | United States | 12/118290 | 09-May-2008 | Pending |
| HIGH PERFORMANCE POWER CONVERSION AND DIGITAL POWER CONTROL | United States | 12/118358 | 09-May-2008 | Pending |
| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | United States | 12/604812 | 23-Oct-2009 | Pending |
| METHOD FOR PRE-BIAS CORRECTION DURING TURN-ON OF SWITCHING POWER REGULATORS | United States | 11/361130 | 24-Feb-2006 | Pending |
| METHOD FOR CONTROL OF OVERLAP TIMES IN SWITCHING POWER CONVERTERS | United States | 11/429484 | 05-May-2006 | Pending |
| METHOD AND APPARATUS FOR CONTROLLING OPERATING PARAMETERS OF COMPONENTS IN A POWER DISTRIBUTION SYSTEM | United States | 11/355703 | 16-Feb-2006 | Pending |

Zilker Labs, Inc.. – Foreign Registered Patents and Patent Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | CN | 200910246842 | 23-Oct-2009 | Pending |
| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | TW | 98135898 | 23-Oct-2009 | Pending |
| TRANSIENT PROCESSING MECHANISM FOR POWER CONVERTERS | DE | 202009013410 | 23-Oct-2009 | Pending |

Kenet, Inc. – U.S. Registered Patents and Patent Applications.

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | United States | 7079067 | 18-Jul-2006 | Granted |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | United States | 7106230 | 12-Sep-2006 | Granted |
| GATE BIAS CIRCUIT FOR MOS CHARGE COUPLED DEVICES | United States | 7109784 | 19-Sep-2006 | Granted |
| A CHARGE COMPARATOR WITH LOW INPUT OFFSET | United States | 7173558 | 06-Feb-2007 | Granted |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | United States | 7179676 | 20-Feb-2007 | Granted |
| CCD CHARGE-SPLITTER ADJUSTMENT BY STATIC CHARGE GRADIENT | United States | 7274052 | 25-Sep-2007 | Granted |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | United States | 7400280 | 15-Jul-2008 | Granted |
| METAL-INSULATOR-METAL CAPACITORS | United States | 7439570 | 21-Oct-2008 | Granted |
| ANALOG ERROR CORRECTION FOR A PIPELINED CHARGE-DOMAIN A/D CONVERTER | United States | 7535400 | 19-May-2009 | Granted |
| CHARGE DOMAIN PIPELINED ANALOG-TO-DIGITAL CONVERTER | United States | 7570192 | 04-Aug-2009 | Granted |
| COMMON-MODE CHARGE CONTROL IN A PIPELINED CHARGE-DOMAIN SIGNAL-PROCESSING CIRCUIT | United States | 7576586 | 18-Aug-2009 | Granted |
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | United States | 12/332168 | 10-Dec-2008 | Published |
| GATE BIAS CIRCUIT FOR MOS CHARGE COUPLED DEVICES | United States | 11/522851 | 18-Sep-2006 | Pending |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | United States | 11/709105 | 20-Feb-2007 | Published |
| METAL-INSULATOR-METAL CAPACITORS | United States | 12/287045 | 06-Oct-2008 | Published |
| ANALOG ERROR CORRECTION FOR A PIPELINED CHARGE-DOMAIN A/D CONVERTER | United States | 12/423652 | 14-Apr-2009 | Pending |
| COMMON-MODE CHARGE CONTROL IN A PIPELINED CHARGE-DOMAIN SIGNAL-PROCESSING CIRCUIT | United States | 12/543130 | 18-Aug-2009 | Pending |
| CHARGE-DOMAIN PIPELINED CHARGE-REDISTRIBUTION ANALOG-TO-DIGITAL CONVERTER | United States | 12/723019 | 12-Mar-2010 | Pending |
| INCREASING CHARGE CAPACITY OF CHARGE TRANSFER CIRCUITS WITHOUT ALTERING THEIR CHARGE TRANSFER CHARACTERISTICS | United States | 12/330270 | 08-Dec-2008 | Published |
| AVOIDING FLOATING DIFFUSION CONTAMINATION | United States | 12/330215 | 08-Dec-2008 | Published |
| FLASH CONVERTER DIFFERENTIAL | United States | 12/330272 | 08-Dec-2008 | Published |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| REFERENCE LADDER AUTO-ZERO CIRCUIT | | | | |
| FLASH CONVERTER DIFFERENTIAL REFERENCE LADDER ADJUSTMENT WITH STABLE COMMON MODE VOLTAGE | United States | 12/330224 | 08-Dec-2008 | Published |
| BOOSTED CHARGE TRANSFER PIPELINE | United States | 11/807914 | 30-May-2007 | Published |
| CABLE GATEWAY USING A CHARGE- DOMAIN PIPELINE ANALOG TO DIGITAL CONVERTER | United States | 12615397 | 10-Nov-2009 | Pending |
| DOPED PLUG FOR CCD GAPS | United States | 11/807911 | 30-May-2007 | Pending |
| LOW POWER 10 GIGABIT ETHERNET INTERFACE | United States | 12/154443 | 22-May-2008 | Published |
| COMMON-MODE-INSENSITIVE SAMPLER | United States | 12/011998 | 29-Jan-2008 | Pending |
| CHARGE-DOMAIN PIPELINED CHARGE- REDISTRIBUTION ANALOG-TO-DIGITAL CONVERTER | United States | 12/007470 6 | 05-Mar-2008 | Pending |
| BACKGROUND CALIBRATION OF OFFSETS IN INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | United States | 61/220861 | 26-Jun-2009 | Pending |
| BACKGROUND CALIBRATION OF OFFSETS IN INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | United States | 61/226977 | 20-Jul-2009 | Pending |
| IMPROVEMENT IN SAMPLER LINEARITY BY SIMULTANEOUS SAMPLING | United States | 61/219978 | 24-Jun-2009 | Pending |
| IMPROVEMENT IN SAMPLER LINEARITY BY SIMULTANEOUS SAMPLING | United States | 61308851 | 26-Feb-2010 | Pending |
| DOPED PLUG FOR CCD GAPS | United States | 60/809773 | 31-May-2006 | Pending |
| A CHARGE COMPARATOR WITH LOW INPUT OFFSET | United States | 12/322658 | 05-Feb-2009 | Pending |
| CORRECTING CHARGE TRANSFER INEFFICIENCY IN A CHARGE COUPLED ANALOG TO DIGITAL CONVERTER | United States | 12/494049 | 29-Jun-2009 | Pending |

Kenet, Inc. – Foreign Registered Patents and Patent Applications.

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| DEVICE FOR SUBTRACTING/ADDING A CONSTANT AMOUNT OF CHARGE IN A CHARGE-COUPLED DEVICE | KR | 2007001504 | 23-Apr- 2007 | Pending |
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | WO | 2005024137 | 06-Jul-2005 | Pending |
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | CA | 2573147 | 06-Jul-2005 | Pending |
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | EP | 05769296.4 | 06-Jul-2005 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | JP | 20007520504 | 06-Jul-2005 | Pending |
| VOLTAGE RANDOM ACCESS MEMORY (VRAM) | KR | 7002830 | 06-Jul-2005 | Pending |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | TW | 94119264 | 10-Jun-2005 | Pending |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | KR | 07/7001066 | 17-Jun-2005 | Pending |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | EP | 05760909 | 17-Jun-2005 | Pending |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | WO | 06/021568 | 17-Jun-2005 | Published |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | JP | 2007516803 | 17-Jun-2005 | Pending |
| ANALOG TO DIGITAL CONVERTER CALIBRATION VIA SYNCHRONOUS DEMODULATION | CA | 2571228 | 17-Jun-2005 | Pending |
| GATE BIAS CIRCUIT FOR MOS CHARGE COUPLED DEVICES | WO | 05/021566 | 17-Jun-2005 | Published |
| A CHARGE COMPARATOR WITH LOW INPUT OFFSET | WO | 05/024007 | 06-Jul-2005 | Pending |
| CCD CHARGE-SPLITTER ADJUSTMENT BY STATIC CHARGE GRADIENT | WO | 2005/023791 | 06-Jul-2005 | Pending |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | KR | 07/7022768 | 09-Feb-2006 | Pending |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | EP | 06720633.4 | 09-Feb-2006 | Published |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | CA | 2603678 | 09-Feb-2006 | Pending |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | JP | 08/504038 | 09-Feb-2006 | Pending |
| MANUFACTURING CCDS IN A CONVENTIONAL CMOS PROCESS | TW | 95104845 | 14-Feb-2006 | Published |
| INCREASING CHARGE CAPACITY OF CHARGE TRANSFER CIRCUITS WITHOUT ALTERING THEIR CHARGE TRANSFER CHARACTERISTICS | TW | 97147290 | 05-Dec-2008 | Pending |
| INCREASING CHARGE CAPACITY OF CHARGE TRANSFER CIRCUITS WITHOUT ALTERING THEIR CHARGE TRANSFER CHARACTERISTICS | WO | 0131479 | 08-Dec-2008 | Pending |
| AVOIDING FLOATING DIFFUSION CONTAMINATION | TW | 97147289 | 05-Dec-2008 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|-----------|
| AVOIDING FLOATING DIFFUSION CONTAMINATION | WO | 013474 | 07-Dec- 2008 | Pending |
| BOOSTED CHARGE TRANSFER PIPELINE | TW | 96119259 | 30-May- 2007 | Pending |
| BOOSTED CHARGE TRANSFER PIPELINE | WO | 07/012906 | 31-May- 2007 | Published |
| BOOSTED CHARGE TRANSFER PIPELINE | CN | 07/80019871. 6 | 31-May- 2007 | Published |
| BOOSTED CHARGE TRANSFER PIPELINE | JP | 2009513290 | 31-May- 2007 | Published |
| BOOSTED CHARGE TRANSFER PIPELINE | KR | 20087029051 | 31-May- 2007 | Published |
| BOOSTED CHARGE TRANSFER PIPELINE | EP | 07795582.1 | 31-May- 2007 | Published |
| METAL-INSULATOR-METAL CAPACITORS | EP | 07795656.3 | 01-Jun- 2007 | Published |
| METAL-INSULATOR-METAL CAPACITORS | CN | 200780020220 | 01-Jun- 2007 | Published |
| METAL-INSULATOR-METAL CAPACITORS | TW | 96119667 | 01-Jun- 2007 | Pending |
| METAL-INSULATOR-METAL CAPACITORS | WO | 07/013044 | 01-Jun- 2007 | Published |
| DOPED PLUG FOR CCD GAPS | WO | 07/012905 | 31-May- 2007 | Published |
| CHARGE DOMAIN PIPELINED ANALOG-TO- DIGITAL CONVERTER | EP | 08724614.6 | 18-Jan- 2008 | Published |
| CHARGE DOMAIN PIPELINED ANALOG-TO- DIGITAL CONVERTER | CN | 200880002327.5 0 | 18-Jan- 2008 | Published |
| CHARGE DOMAIN PIPELINED ANALOG-TO- DIGITAL CONVERTER | KR | 102009701507 1 | 18-Jan- 2008 | Published |
| CHARGE DOMAIN PIPELINED ANALOG-TO- DIGITAL CONVERTER | WO | 08/000687 | 18-Jan- 2008 | Published |
| CHARGE DOMAIN PIPELINED ANALOG-TO- DIGITAL CONVERTER | TW | 97101976 | 18-Jan- 2008 | Pending |
| ANALOG ERROR CORRECTION FOR A PIPELINED CHARGE-DOMAIN A/D CONVERTER | WO | 08/000825 | 23-Jan- 2008 | Published |
| ANALOG ERROR CORRECTION FOR A PIPELINED CHARGE-DOMAIN A/D CONVERTER | CN | 20080002640. 9 | 21-Aug- 2009 | Published |
| COMMON-MODE-INSENSITIVE SAMPLER | KR | 2009-7015493 | 29-Jan- 2008 | Published |
| COMMON-MODE-INSENSITIVE SAMPLER | WO | 08/001263 | 29-Jan- 2008 | Published |
| COMMON-MODE-INSENSITIVE SAMPLER | EP | 08713358.3 | 29-Jan- 2008 | Published |
| COMMON-MODE-INSENSITIVE SAMPLER | CN | 200880003289 | 29-Jan- 2008 | Published |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|-----------|
| COMMON-MODE CHARGE CONTROL IN A PIPELINED CHARGE-DOMAIN SIGNAL-PROCESSING CIRCUIT | WO | 08/01679 | 08-Feb-2008 | Pending |
| COMMON-MODE CHARGE CONTROL IN A PIPELINED CHARGE-DOMAIN SIGNAL-PROCESSING CIRCUIT | KR | 09-7015494 | 23-Jul-2009 | Pending |
| COMMON-MODE CHARGE CONTROL IN A PIPELINED CHARGE-DOMAIN SIGNAL-PROCESSING CIRCUIT | EP | 08725325.8 | 10-Aug-2009 | Pending |
| CHARGE-DOMAIN PIPELINED CHARGE-REDISTRIBUTION ANALOG-TO-DIGIAL CONVERTER | DE | 112008000602 | 05-Mar-2008 | Published |
| CHARGE-DOMAIN PIPELINED CHARGE-REDISTRIBUTION ANALOG-TO-DIGIAL CONVERTER | WO | 08/002933 | 05-Mar-2008 | Pending |
| CHARGE-DOMAIN PIPELINED CHARGE-REDISTRIBUTION ANALOG-TO-DIGIAL CONVERTER | CN | 80007242.6 | 25-Sep-2009 | Pending |

Intersil Americas, Inc. – U.S. Registered Patents and Pending Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| PHASE-LOCK LOOP HAVING PROGRAMMABLE BANDWIDTH | United States | 6853252 | 08-Feb-2005 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | United States | RE38487 | 06-Apr-2004 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | United States | RE38940 | 24-Jan-2006 | Granted |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | United States | RE38454 | 09-Mar-2004 | Granted |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | United States | RE38846 | 25-Oct-2005 | Granted |
| Current source with supply current minimizing | United States | US 5585712 | 12/17/1996 | Granted |
| HIGH EFFICIENCY POWER MOS SWITCH | United States | 7076070 | 11-Jul-2006 | Granted |
| CURRENT-CONTROLLED CARRIER TRACKING FILTER FOR IMPROVED | United States | 6549590 | 15-Apr-2003 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| SPURIOUS SIGNAL SUPPRESSION | | | | |
| WAFER TRENCH ARTICLE AND PROCESS | United States | 6551897 | 22-Apr- 2003 | Granted |
| DC-TO-DC CONVERTER WITH INDUCTOR CURRENT SENSING AND RELATED METHODS | United States | 5982160 | 09-Nov- 1999 | Granted |
| DEVICES WITH PATTERNED WELLS AND METHOD FOR FORMING SAME | United States | 6979885 | 27-Dec- 2005 | Granted |
| REFERENCE CURRENT/VOLTAGE GENERATOR HAVING REDUCED SENSITIVITY TO VARIATIONS IN POWER SUPPLY VOLTAGE | United States | 6522117 | 18-Feb- 2003 | Granted |
| LASER DECAPSULATION APPARATUS AND METHOD | United States | 7166186 | 23-Jan-2007 | Granted |
| LASER DECAPSULATION APPARATUS AND METHOD | United States | 7316936 | 08-Jan-2008 | Granted |
| METHOD FOR MAKING A DIFFUSED BACK-SIDE LAYER ON A BONDED- WAFER WITH A THICK BOND OXIDE | United States | 6867495 | 15-Mar- 2005 | Granted |
| METHOD FOR MAKING A DIFFUSED BACK-SIDE LAYER ON A BONDED- WAFER WITH A THICK BOND OXIDE | United States | 6946364 | 20-Sep- 2005 | Granted |
| METHOD FOR MAKING A DIFFUSED BACK-SIDE LAYER ON A BONDED- WAFER WITH A THICK BOND OXIDE | United States | 7285475 | 23-Oct- 2007 | Granted |
| BONDED SUBSTRATE FOR AN INTEGRATED CIRCUIT CONTAINING A PLANAR INTRINSIC GETTERING ZONE (as amended) | United States | 6825532 | 30-Nov- 2004 | Granted |
| BONDED SUBSTRATE FOR AN INTEGRATED CIRCUIT CONTAINING A PLANAR INTRINSIC GETTERING ZONE (as amended) | United States | 7052973 | 30-May- 2006 | Granted |
| METHOD OF FORMING RESISTIVE CONTACTS ON INTEGRATED CIRCUITS WITH MOBILITY SPOILING IONS INCLUDING HIGH RESISTIVE CONTACTS AND LOW RESISTIVITY SILICIDE CONTACTS | United States | 6667523 | 23-Dec- 2003 | Granted |
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | United States | 6246220 | 12-Jun- 2001 | Granted |
| MULTI-PHASE CONVERTER WITH | United States | 6278263 | 21-Aug- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| BALANCED CURRENTS | | | 2001 | |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | United States | RE40593 | 02-Dec- 2008 | Granted |
| SELF-ALIGNMENT OF SEPARATED REGIONS IN A LATERAL MOSFET STRUCTURE OF AN INTEGRATED CIRCUIT | United States | 6822292 | 23-Nov- 2004 | Granted |
| SELF-ALIGNMENT OF SEPARATED REGIONS IN A LATERAL MOSFET STRUCTURE OF AN INTEGRATED CIRCUIT | United States | 6974753 | 13-Dec- 2005 | Granted |
| SELF-ALIGNMENT OF SEPARATED REGIONS IN A LATERAL MOSFET STRUCTURE OF AN INTEGRATED CIRCUIT | United States | 7161223 | 09-Jan-2007 | Granted |
| SELF-ALIGNMENT OF SEPARATED REGIONS IN A LATERAL MOSFET STRUCTURE OF AN INTEGRATED CIRCUIT | United States | 7410860 | 12-Aug- 2008 | Granted |
| SELF-ALIGNMENT OF SEPARATED REGIONS IN A LATERAL MOSFET STRUCTURE OF AN INTEGRATED CIRCUIT | United States | 7687336 | 30-Mar- 2010 | Granted |
| ESD PROTECTION NETWORKS UTILIZING PRECHARGED BUS LINES | United States | 6924963 | 02-Aug- 2005 | Granted |
| COMPLEMENTARY METAL OXIDE SEMICONDUCTOR WITH IMPROVED SINGLE EVENT PERFORMANCE | United States | 6653708 | 25-Nov- 2003 | Granted |
| POWER DEVICE DRIVING CIRCUIT AND ASSOCIATED METHODS | United States | 6507226 | 14-Jan-2003 | Granted |
| REDUNDANT LATCH CIRCUIT AND ASSOCIATED METHODS | United States | 6504411 | 07-Jan-2003 | Granted |
| OVERVOLTAGE PROTECTION CIRCUIT FOR BIDIRECTIONAL TRANSMISSION GATE | United States | 6633470 | 14-Oct- 2003 | Granted |
| TEMPERATURE-INSENSITIVE OUTPUT CURRENT LIMITER NETWORK FOR ANALOG INTEGRATED CIRCUIT | United States | 6570431 | 27-May- 2003 | Granted |
| PRECISION, LOW-POWER TRANSIMPEDANCE CIRCUIT WITH DIFFERENTIAL CURRENT SENSE INPUTS AND SINGLE ENDED VOLTAGE OUTPUT | United States | 6400187 | 04-Jun- 2002 | Granted |
| PRECISION LOW POWER OPERATIONAL AMPLIFIER WITH GAIN | United States | 6411164 | 25-Jun- 2002 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| INVARIANT BANDWIDTH | | | | |
| MULTISTAGE PRECISION, LOW INPUT/OUTPUT OVERHEAD, LOW POWER, HIGH OUTPUT IMPEDANCE AND LOW CROSSTALK CURRENT MIRROR | United States | 6507236 | 14-Jan-2003 | Granted |
| MECHANISM FOR MINIMIZING CURRENT MIRROR TRANSISTOR BASE CURRENT ERROR FOR LOW OVERHEAD VOLTAGE APPLICATIONS | United States | 6518832 | 11-Feb-2003 | Granted |
| REDUCED PROPAGATION DELAY CURRENT MODE CASCADED ANALOG-TO-DIGITAL CONVERTER AND THRESHOLD BIT CELL THEREFOR | United States | 6492930 | 10-Dec-2002 | Granted |
| TRANSCONDUCTANCE AMPLIFIER BASED PRECISION HALF WAVE AND FULL WAVE RECTIFIER CIRCUIT | United States | 6452450 | 17-Sep-2002 | Granted |
| DUAL-EDGE FUNCTION CLOCK GENERATOR AND METHOD OF DERIVING CLOCKING SIGNALS FOR EXECUTION REDUCED INSTRUCTION SEQUENCES IN A RE-PROGRAMMABLE I/O INTERFACE | United States | 6664833 | 16-Dec-2003 | Granted |
| HERMETICALLY SEALED INTEGRATED CIRCUIT PACKAGE INCORPORATING PRESSURE RELIEF VALVE FOR EQUALIZING INTERIOR AND EXTERIOR PRESSURES WHEN PLACED IN SPACEBORNE ENVIRONMENT | United States | 6448637 | 10-Sep-2002 | Granted |
| LATERAL DMOS STRUCTURE WITH LATERAL EXTENSION STRUCTURE FOR REDUCED CHARGE TRAPPING IN GATE OXIDE | United States | 6894349 | 17-May-2005 | Granted |
| LATERAL DMOS STRUCTURE WITH LATERAL EXTENSION STRUCTURE FOR REDUCED CHARGE TRAPPING IN GATE OXIDE | United States | 7655515 | 02-Feb-2010 | Granted |
| INTEGRATED CIRCUIT WITH CURRENT-LIMITED POWER OUTPUT AND ASSOCIATED METHOD | United States | 6603358 | 05-Aug-2003 | Granted |
| INTEGRATED CIRCUIT WITH CURRENT SENSE CIRCUIT AND ASSOCIATED METHODS | United States | 6727745 | 27-Apr-2004 | Granted |
| INTEGRATED CIRCUIT WITH A MOS | United States | 6765247 | 20-Jul-2004 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| STRUCTURE HAVING REDUCED PARASITIC BIPOLAR TRANSISTOR ACTION | | | | |
| INTEGRATED CIRCUIT WITH A MOS STRUCTURE HAVING REDUCED PARASITIC BIPOLAR TRANSISTOR ACTION | United States | 6902967 | 07-Jun- 2005 | Granted |
| REDUNDANT COMPARATOR DESIGN FOR IMPROVED OFFSET VOLTAGE AND SINGLE EVENT EFFECTS HARDNESS | United States | 6563347 | 13-May- 2003 | Granted |
| AN OPERATIONAL AMPLIFIER INCLUDING A RIGHT-HALF PLANE ZERO REDUCTION CIRCUIT AND RELATED METHOD | United States | 6538511 | 25-Mar- 2003 | Granted |
| SYMBOL TIMING RECOVERY BASED ON COMPLEX SAMPLE MAGNITUDE | United States | 5671257 | 23-Sep- 1997 | Granted |
| METHOD AND APPARATUS FOR TRANSLATING DIGITAL DATA INTO AN ANALOG SIGNAL | United States | 5774084 | 30-Jun- 1998 | Granted |
| CURRENT LIMITING SWITCH AND RELATED METHOD | United States | 6525919 | 25-Feb- 2003 | Granted |
| MOS INTEGRATED CIRCUIT WITH REDUCED ON RESISTANCE | United States | 6552392 | 22-Apr- 2003 | Granted |
| MOS INTEGRATED CIRCUIT WITH REDUCED ON RESISTANCE | United States | 6897103 | 24-May- 2005 | Granted |
| SUBSCRIBER LINE INTERFACE CIRCUIT (SLIC) INCLUDING A TRANSIENT OUTPUT CURRENT LIMIT CIRCUIT AND RELATED METHOD | United States | 7167557 | 23-Jan-2007 | Granted |
| ROTATIONALLY INVARIANT DIGITAL COMMUNICATIONS | United States | 6392500 | 21-May- 2002 | Granted |
| DISTORTION-COMPENSATED DIGITAL COMMUNICATIONS RECEIVER AND METHOD THEREFOR | United States | 6507628 | 14-Jan-2003 | Granted |
| PRAGMATIC TRELLIS-CODED DIGITAL COMMUNICATION WITH MULTI- STAGE BRANCH METRICS | United States | 6236685 | 22-May- 2001 | Granted |
| CONSTRAINED-ENVELOPE TRANSMITTER AND METHOD THEREFOR | United States | 6104761 | 15-Aug- 2000 | Granted |
| CONSTRAINED-ENVELOPE TRANSMITTER AND METHOD THEREFOR | United States | 6366619 | 02-Apr- 2002 | Granted |
| DIGITAL COMMUNICATION RECEIVER | United States | 6442217 | 27-Aug- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| WITH DIGITAL, IF, I-Q BALANCER | | | 2002 | |
| COMMUNICATION SYSTEM WITH END-TO-END QUADRATURE BALANCE CONTROL | United States | 6222878 | 24-Apr-2001 | Granted |
| QPSK/QBL-MSK WAVEFORM ENHANCEMENT | United States | 5818867 | 06-Oct-1998 | Granted |
| RAPID SYNCHRONIZATION FOR COMMUNICATION SYSTEMS | United States | 5818832 | 06-Oct-1998 | Granted |
| RAPID SYNCHRONIZATION FOR COMMUNICATION SYSTEMS | United States | 6041088 | 21-Mar-2000 | Granted |
| SPATIALLY REDUNDANT AND COMPLEMENTARY SEMICONDUCTOR DEVICE-BASED, SINGLE EVENT TRANSIENT-RESISTANT LINEAR AMPLIFIER CIRCUIT ARCHITECTURE | United States | 6525590 | 25-Feb-2003 | Granted |
| TRELLIS CODED MODULATION COMMUNICATIONS USING PILOT BITS TO RESOLVE PHASE AMBIGUITIES | United States | 5878085 | 02-Mar-1999 | Granted |
| SIGNAL CONVERTER USING MULTIPLE DATA STREAMS AND METHOD THEREFOR | United States | 5870047 | 09-Feb-1999 | Granted |
| ROTATIONALLY INVARIANT PRAGMATIC TRELLIS-CODED DIGITAL COMMUNICATION SYSTEM AND METHOD THEREFOR | United States | 5995551 | 30-Nov-1999 | Granted |
| PRAGMATIC ENCODER AND METHOD THEREFOR | United States | 5910967 | 08-Jun-1999 | Granted |
| PRAGMATIC DECODER AND METHOD THEREFOR | United States | 6078625 | 20-Jun-2000 | Granted |
| DATA COMMUNICATION SYSTEM AND METHOD THEREFOR | United States | 6005897 | 21-Dec-1999 | Granted |
| PRAGMATIC TRELLIS-CODED MODULATION SYSTEM AND METHOD THEREFOR | United States | 6097764 | 01-Aug-2000 | Granted |
| PHASE-NOISE COMPENSATED DIGITAL COMMUNICATION RECEIVER AND METHOD THEREFOR | United States | 6151368 | 21-Nov-2000 | Granted |
| PHASE-NOISE COMPENSATED DIGITAL COMMUNICATION RECEIVER AND METHOD THEREFOR | United States | 6363124 | 26-Mar-2002 | Granted |
| DIGITAL TUNER | United States | 6141389 | 31-Oct-2000 | Granted |
| AN ANALOG TO DIGITAL CONVERTER USING SUBRANGING AND | United States | 6570523 | 27-May-2003 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| INTERPOLATION | | | | |
| CALIBRATION OF RESISTOR LADDER USING DIFFERENCE MEASUREMENT AND PARALLEL RESISTIVE CORRECTION | United States | 6628216 | 30-Sep-2003 | Granted |
| SYSTEM AND METHOD OF DC CALIBRATION OF AMPLIFIERS | United States | 6714886 | 30-Mar-2004 | Granted |
| TRACK AND HOLD WITH DUAL PUMP CIRCUIT | United States | 6731155 | 04-May-2004 | Granted |
| A METHOD FOR FABRICATING ENHANCED EPROM STRUCTURES WITH ACCENTUATED HOT ELECTRON GENERATION REGIONS | United States | 6921690 | 26-Jul-2005 | Granted |
| REMOTE POWER AMPLIFIER LINEARIZATION | United States | 7088958 | 08-Aug-2006 | Granted |
| SEALED NITRIDE LAYER FOR INTEGRATED CIRCUITS | United States | 7605445 | 20-Oct-2009 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | United States | 6812677 | 02-Nov-2004 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | United States | 6833690 | 21-Dec-2004 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | United States | 6870352 | 22-Mar-2005 | Granted |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | United States | 6687105 | 03-Feb-2004 | Granted |
| MAGNETIC THIN FILM INDUCTORS | United States | 6700472 | 02-Mar-2004 | Granted |
| MAGNETIC THIN FILM INDUCTORS | United States | 6822548 | 23-Nov-2004 | Granted |
| ELECTROLUMINESCENT DRIVER CIRCUIT | United States | 6693387 | 17-Feb-2004 | Granted |
| ELECTROLUMINESCENT DRIVER CIRCUIT | United States | 7151344 | 19-Dec-2006 | Granted |
| A SEMICONDUCTOR DEVICE MANUFACTURING WITH A REDUCED MASK COUNT BURIED LAYER | United States | 6624497 | 23-Sep-2003 | Granted |
| INTEGRATED CIRCUIT FOR GENERATING A PLURALITY OF DIRECT CURRENT (DC) OUTPUT VOLTAGES | United States | 7023187 | 04-Apr-2006 | Granted |

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| CONSTRAINED-ENVELOPE DIGITAL COMMUNICATIONS TRANSMITTER AND METHOD THEREFOR | United States | 6999522 | 14-Feb-2006 | Granted |
| DIGITAL TRANSMITTER WITH CONSTRAINED ENVELOPE AND SPECTRAL REGROWTH OVER A PLURALITY OF CARRIERS | United States | 6928121 | 09-Aug-2005 | Granted |
| PROGRAMMABLE SUBSCRIBER LINE CIRCUIT PARTITIONED INTO HIGH VOLTAGE INTERFACE AND DIGITAL CONTROL SUBSECTIONS | United States | 7050577 | 23-May-2006 | Granted |
| PROGRAMMABLE SUBSCRIBER LINE CIRCUIT PARTITIONED INTO HIGH VOLTAGE INTERFACE AND DIGITAL CONTROL SUBSECTIONS | United States | 7260214 | 21-Aug-2007 | Granted |
| ACTIVE MODE LINE VOLTAGE REGULATOR FOR RINGING SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 7130414 | 31-Oct-2006 | Granted |
| INTEGRATED CIRCUIT WITH A MOS CAPACITOR | United States | 6835628 | 28-Dec-2004 | Granted |
| INTEGRATED CIRCUIT WITH A MOS CAPACITOR | United States | 7042064 | 09-May-2006 | Granted |
| DC-TO-DC CONVERTER WITH FAST OVERRIDE FEEDBACK CONTROL AND ASSOCIATED METHODS | United States | 6696825 | 24-Feb-2004 | Granted |
| POWER AMPLIFIER LINEARIZER THAT COMPENSATES FOR LONG-TIME CONSTANT MEMORY EFFECTS AND METHOD THEREFOR | United States | 6731168 | 04-May-2004 | Granted |
| SYNTHETIC RIPPLE REGULATOR | United States | 6791306 | 09-Sep-2004 | Granted |
| SYNTHETIC RIPPLE REGULATOR | United States | 7132820 | 07-Nov-2006 | Granted |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | United States | RE40915 | 15-Sep-2009 | Granted |
| DISCRETE STEP TEMPERATURE COMPENSATED CURRENT SENSING TECHNIQUE FOR DC TO DC | United States | 6700365 | 02-Mar-2004 | Granted |
| EFFICIENT BUCK TOPOLOGY DC-DC POWER STAGE UTILIZING MONOLITHIC N-CHANNEL UPPER FET AND PILOT CURRENT SENSING | United States | 6734656 | 11-May-2004 | Granted |

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| PHASED DETECTOR AND METHOD FOR A SHORTENING PHASE-ERROR-CORRECTION PULSE | United States | 7471756 | 30-Dec-2008 | Granted |
| A METHOD OF FABRICATING ENHANCED EPROM STRUCTURES WITH ACCENTUATED HOT ELECTRON GENERATION REGIONS | United States | 6492225 | 10-Dec-2002 | Granted |
| AN ENHANCED EPROM STRUCTURES WITH ACCENTUATED HOT ELECTRON GENERATION REGIONS | United States | 6621116 | 16-Sep-2003 | Granted |
| ENHANCED EPROM STRUCTURES WITH ACCENTUATED HOT ELECTRON GENERATION REGIONS | United States | 6566705 | 20-May-2003 | Granted |
| A SEMICONDUCTOR DEVICE MANUFACTURING WITH A REDUCED MASK COUNT BURIED LAYER PROCESS | United States | 6979624 | 27-Dec-2005 | Granted |
| NUMERICALLY MODELING INDUCTIVE CIRCUIT ELEMENTS | United States | 6775807 | 10-Aug-2004 | Granted |
| NUMERICALLY MODELING INDUCTIVE CIRCUIT ELEMENTS | United States | 7310595 | 18-Dec-2007 | Granted |
| NPN BASE FOR IMPROVED PERFORMANCE | United States | 6822314 | 23-Nov-2004 | Granted |
| METHOD AND CIRCUIT FOR SCALING AND BALANCING INPUT AND OUTPUT CURRENTS IN A MULTI-PHASE DC-DC CONVERTER USING DIFFERENT INPUT VOLTAGES | United States | 6897636 | 24-May-2005 | Granted |
| MODIFIED BROKAW CELL-BASED CIRCUIT FOR GENERATING OUTPUT CURRENT THAT VARIES LINEARLY WITH TEMPERATURE | United States | 6836160 | 28-Dec-2004 | Granted |
| CLOSED LOOP DIODE EMULATOR FOR DC-DC CONVERTER | United States | 6815936 | 09-Nov-2004 | Granted |
| VOLTAGE REFERENCE FILTER FOR SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 6950514 | 27-Sep-2005 | Granted |
| ARRANGEMENT FOR BACK-BIASING MULTIPLE INTEGRATED CIRCUIT SUBSTRATES AT MAXIMUM SUPPLY VOLTAGE AMONG ALL CIRCUITS | United States | 6765290 | 20-Jul-2004 | Granted |
| BIPOLAR TRANSISTOR FOR AN INTEGRATED CIRCUIT HAVING VARIABLE VALUE EMITTER BALLAST RESISTORS | United States | 6946720 | 20-Sep-2005 | Granted |
| BIPOLAR TRANSISTOR FOR AN | United States | 7314791 | 01-Jan-2008 | Granted |

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| INTEGRATED CIRCUIT HAVING VARIABLE VALUE EMITTER BALLAST RESISTORS | | | | |
| BIPOLAR TRANSISTOR FOR AN INTEGRATED CIRCUIT HAVING VARIABLE VALUE EMITTER BALLAST RESISTORS | United States | 7564117 | 21-Jul-2009 | Granted |
| METHOD OF SETTING BI-DIRECTIONAL OFFSET IN A PWM CONTROLLER USING A SINGLE PIN | United States | 6703893 | 09-Mar- 2004 | Granted |
| SMOOTH VOLTAGE REGULATION TRANSITION CIRCUIT HAVING FAST RECOVERY | United States | 7088015 | 08-Aug- 2006 | Granted |
| PWM CONTROLLER WITH INTEGRATED PLL | United States | 7269217 | 11-Sep- 2007 | Granted |
| BANDGAP REFERENCE CIRCUIT FOR LOW SUPPLY VOLTAGE APPLICATIONS | United States | 6914475 | 05-Jul-2005 | Granted |
| CHARGE PUMP DRIVE SIGNAL RECOVERY CIRCUIT | United States | 6738273 | 18-May- 2004 | Granted |
| DIGITAL DIODE EMULATION FOR DC/DC CONVERTERS | United States | 6643145 | 04-Nov- 2003 | Granted |
| NON-LINEAR CURRENT GENERATOR FOR HIGH-ORDER CURVATURE COMPENSATED REFERENCES | United States | 6791307 | 14-Sep- 2004 | Granted |
| TRANSIENT-PHASE PWM POWER SUPPLY AND METHOD | United States | 7109689 | 19-Sep- 2006 | Granted |
| MODE-DEPENDENT, MULTIPLE BIAS- DRIVEN BATTERY SWITCH FOR SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 7003103 | 21-Feb- 2006 | Granted |
| MODE-DEPENDENT, MULTIPLE BIAS- DRIVEN BATTERY SWITCH FOR SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 7260103 | 21-Jul-2007 | Granted |
| ENHANCED HIGH VOLTAGE INTERFACE FOR PARTITIONED SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 7206405 | 17-Apr- 2007 | Granted |
| CONSTANT DEADTIME CONTROL IN A FEED FORWARD ENABLED PULSE WIDTH MODULATOR CONTROLLER | United States | 6819154 | 16-Nov- 2004 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | United States | 6844705 | 18-Jan-2005 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED | United States | 6917184 | 12-Jul-2005 | Granted |

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| FROM MULTIPLE TYPES OF WALL ADAPTERS | | | | |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | United States | 6998820 | 14-Feb-2006 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | United States | 7141954 | 28-Nov-2006 | Granted |
| ROBUST FRACTIONAL CLOCK-BASED PULSE GENERATOR FOR DIGITAL PULSE WIDTH MODULATOR | United States | 6819190 | 16-Nov-2004 | Granted |
| HIGH RESOLUTION DIGITAL PULSE WIDTH MODULATOR FOR DC-DC VOLTAGE CONVERTER | United States | 7206343 | 17-Apr-2007 | Granted |
| INTEGRATED POTS/DSL LINE DRIVER WITH FLOATING SUPPLY VOLTAGE | United States | 6931108 | 16-Aug-2005 | Granted |
| ELECTRONIC DEVICE INCLUDING MULTIPHASE SWITCHING REGULATOR AND RELATED METHODS | United States | 6791304 | 14-Sep-2004 | Granted |
| MARGINING PIN INTERFACE AND CONTROL CIRCUIT | United States | 6798260 | 28-Sep-2004 | Granted |
| MARGINING PIN INTERFACE CIRCUIT | United States | 6788229 | 07-Sep-2004 | Granted |
| ABSOLUTE VALUE CIRCUIT | United States | 6724233 | 20-Apr-2004 | Granted |
| HIGH BANDWIDTH FEED-FORWARD OSCILLATOR | United States | 6930520 | 16-Aug-2005 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | United States | 6922044 | 26-Jul-2005 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | United States | 7019502 | 28-Mar-2006 | Granted |
| MULTIPHASE CONVERTER CONTROLLER USING SINGLE GAIN RESISTOR | United States | 6977489 | 20-Dec-2005 | Granted |
| PWM-BASED DC-DC CONVERTER WITH ASSURED DEAD TIME CONTROL EXHIBITING NO SHOTT-THROUGH CURRENT AND INDEPENDENT OF TYPE OF FET USED | United States | 6940262 | 06-Sep-2005 | Granted |
| COMPENSATION SAMPLE AND HOLD | United States | 6958596 | 25-Oct- | Granted |

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| FOR VOLTAGE REGULATOR AMPLIFIER | | | 2005 | |
| MECHANISM FOR PROVIDING OVER-VOLTAGE PROTECTION DURING POWER UP OF DC-DC CONVERTER | United States | 6873191 | 29-Mar-2005 | Granted |
| MECHANISM FOR PROVIDING OVER-VOLTAGE PROTECTION DURING POWER UP OF DC-DC CONVERTER | United States | 7518430 | 14-Apr-2009 | Granted |
| SOFT START PRECHARGE CIRCUIT FOR DC POWER SUPPLY | United States | 6998829 | 14-Feb-2006 | Granted |
| LOW POWER, AREA-EFFICIENT CIRCUIT TO PROVIDE CLOCK SYNCHRONIZATION | United States | 6828830 | 07-Dec-2004 | Granted |
| TIME DIVISION MULTIPLEXED, PILOTED CURRENT MONITORING IN A SWITCHED MODE DC-DC VOLTAGE CONVERTER AND PHASE CURRENT MEASUREMENT CALIBRATION FOR A MULTIPHASE CONVERTER | United States | 6906536 | 14-Jun-2005 | Granted |
| LINE MODELING TOOL | United States | 7110933 | 19-Sep-2006 | Granted |
| OPTICAL PICK-UP UNITS AND LASER DRIVERS WITH INCREASED FUNCTIONALITY | United States | 7317674 | 08-Jan-2008 | Granted |
| ACTIVE TRANSIENT RESPONSE WITH A LOW INDUCTOR | United States | 6903914 | 07-Jun-2005 | Granted |
| TECHNIQUE FOR MEASURING TEMPERATURE AND CURRENT VIA A MOSFET OF A SYNCHRONOUS BUCK VOLTAGE CONVERTER | United States | 6946897 | 20-Sep-2005 | Granted |
| PARTICULATE REMOVAL FROM AN ELECTROSTATIC CHUCK | United States | 7097714 | 29-Aug-2006 | Granted |
| DC-TO-DC POWER REGULATOR HAVING NON-LINEAR LOAD LINE AND AUTOMATIC LEAKAGE CURRENT OFFSET ADJUSTMENT | United States | 6995549 | 07-Feb-2006 | Granted |
| BACKSIDE FAILURE ANALYSIS OF INTEGRATED CIRCUITS | United States | 7063987 | 20-Jun-2006 | Granted |
| AC-DC ADAPTER INTERFACE AND BATTERY CHARGER HAVING HIGH SPEED BATTERY CHARGER CURRENT FOLDBACK WHEN ADAPTER CURRENT DEMAND EXCEEDS PRESCRIBED LIMIT | United States | 7199558 | 13-Apr-2007 | Granted |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | United States | 7005369 | 28-Feb-2006 | Granted |

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| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | United States | 7224074 | 29-May- 2007 | Granted |
| MULTIPLE CHANNEL PROGRAMMABLE GAMMA CORRECTION VOLTAGE GENERATOR | United States | 7446747 | 04-Nov- 2008 | Granted |
| ASSYMETRICAL MULTIPHASE DC-DC POWER CONVERTER | United States | 6995548 | 07-Feb- 2006 | Granted |
| MULTIPLEXED HIGH VOLTAGE DC-AC DRIVER | United States | 6911790 | 28-Jun- 2005 | Granted |
| CONTROLLER FOR FET PASS DEVICE | United States | 6919758 | 19-Jul-2005 | Granted |
| CASCADABLE CURRENT-MODE REGULATOR | United States | 7061215 | 13-Jun- 2006 | Granted |
| OUTPUT CURRENT SHARING | United States | 7301317 | 27-Nov- 2007 | Granted |
| PROGRAMMABLE BANDWIDTH AND FREQUENCY SLEWING FOR PHASE- LOCK LOOP | United States | 6998890 | 14-Feb- 2006 | Granted |
| CURRENT LIMITING CIRCUIT WITH RAPID RESPONSE FEEDBACK LOOP | United States | 7005924 | 28-Feb- 2006 | Granted |
| SYSTEM AND METHOD FOR DECAPSULATING AN ENCAPSULATED OBJECT | United States | 7326305 | 05-Feb- 2008 | Granted |
| INDUCTOR CURRENT SENSING SCHEME FOR PWM REGULATOR | United States | 7106035 | 12-Sep- 2006 | Granted |
| CLOCKED, CASCADING, CURRENT- MODE REGULATOR WITH HIGH NOISE IMMUNITY AND ARBITRARY PHASE COUNT | United States | 7002325 | 21-Feb- 2006 | Granted |
| STARTUP CIRCUIT FOR A DC-DC CONVERTER | United States | 7038514 | 02-May- 2006 | Granted |
| MULTI-CHANNEL DRIVER INTERFACE CIRCUIT FOR INCREASING PHASE COUNT IN A MULTI-PHASE DC-DC CONVERTER | United States | 7026798 | 11-Apr- 2006 | Granted |
| TRACKING SOFT START CIRCUIT FOR GENERATING A PLURALITY OF SOFT START VOLTAGES WHERE ALL SOFT START VOLTAGES ARE PREVENTED UNTIL ALL HAVE BEEN BROUGHT TO THE SAME PRESCRIBED STATE OF OPERATION | United States | 7075804 | 11-Jul-2006 | Granted |
| HIGH VOLTAGE DIFFERENTIAL AMPLIFIER USING LOW VOLTAGE DEVICES | United States | 6965266 | 15-Nov- 2005 | Granted |

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| METHOD OF CONTROLLING MULTIPLE PARALLEL CONVERSION PATHS | United States | 7259473 | 21-Aug-2007 | Granted |
| METHOD AND STRUCTURE FOR NON-SINGLE-POLYCRYSTALLINE CAPACITOR IN AN INTEGRATED CIRCUIT | United States | 7098103 | 29-Aug-2006 | Granted |
| SYSTEM AND METHOD OF DETECTING PHASE BODY DIODE USING A COMPARATOR IN A SYNCHRONOUS RECTIFIED FET DRIVER | United States | 7031175 | 18-Apr-2006 | Granted |
| MULTIPHASE DC-DC CONVERTER WITH REDUCED RIPPLE | United States | 7084613 | 01-Aug-2006 | Granted |
| TRANSCONDUCTANCE AMPLIFIER WITH MULTI-EMITTER STRUCTURE FOR CURRENT BALANCE IN MULTI-PHASE SYNTHETIC RIPPLE REGULATOR | United States | 7015757 | 21-Mar-2006 | Granted |
| PRECISION MARGINING CIRCUITRY | United States | 6975163 | 13-Dec-2005 | Granted |
| LINEAR PREDICTIVE CONTROLLER | United States | 7038432 | 02-May-2006 | Granted |
| RADIATION HARDENED BIPOLAR JUNCTION TRANSISTOR | United States | 7029981 | 18-Apr-2006 | Granted |
| RADIATION HARDENED BIPOLAR JUNCTION TRANSISTOR | United States | 7187056 | 06-Mar-2007 | Granted |
| METHOD OF MAKING BIPOLAR TRANSISTORS AND RESULTING PRODUCT | United States | 7067383 | 27-Jun-2006 | Granted |
| METHOD OF MAKING BIPOLAR TRANSISTORS AND RESULTING PRODUCT | United States | 7327012 | 05-Feb-2008 | Granted |
| DIGITALLY CONFIGURABLE MULTIPLEXER/DE-MULTIPLEXER | United States | 7386015 | 10-Jun-2008 | Granted |
| ON-CHIP STRUCTURE FOR ELECTROSTATIC DISCHARGE (ESD) PROTECTION | United States | 7202114 | 10-Apr-2007 | Granted |
| ON-CHIP STRUCTURE FOR ELECTROSTATIC DISCHARGE (ESD) PROTECTION | United States | 7601991 | 13-Oct-2009 | Granted |
| PROGRAMMABLE BANDWIDTH DURING START-UP FOR PHASE-LOCK LOOP | United States | 7023250 | 04-Apr-2006 | Granted |
| HIGH VOLTAGE GATE DRIVER USING A LOW VOLTAGE MULTI-LEVEL CURRENT PULSE TRANSLATOR | United States | 7088151 | 08-Aug-2006 | Granted |
| STARTUP CIRCUIT FOR CONVERTER | United States | 7034586 | 25-Apr- | Granted |

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| WITH PRE-BIASED LOAD | | | 2006 | |
| RAIL-RAIL CURRENT SENSE AMPLIFIER | United States | 7102335 | 05-Sep-2006 | Granted |
| HIGH VOLTAGE FLOATING CURRENT SENSE AMPLIFIER | United States | 7015728 | 21-Mar-2006 | Granted |
| SYSTEM AND METHOD FOR AUTHENTICATION | United States | 7512794 | 31-Mar-2009 | Granted |
| HIGH LIGHT LOAD EFFICIENCY SYNCHRONOUS BUCK REGULATOR WITH PULSE SKIPPING CONTROL | United States | 7245113 | 17-Jul-2007 | Granted |
| DROOP AMPLIFIER CIRCUIT | United States | 7064528 | 20-Jun-2006 | Granted |
| BATTERY AUTHENTICATION SYSTEM | United States | 7596699 | 29-Sep-2009 | Granted |
| COMMON-MODE CURRENT FEEDBACK AMPLIFIERS | United States | 7132859 | 07-Nov-2006 | Granted |
| CONFIGURABLE INTERNAL/EXTERNAL LINEAR VOLTAGE REGULATOR | United States | 7612546 | 03-Nov-2009 | Granted |
| APPARATUS FOR OFFSET CORRECTING HIGH-SIDE AND LOW-SIDE SINKING/SOURCING OVER-CURRENT PROTECTION | United States | 7227731 | 05-Jun-2007 | Granted |
| FREQUENCY PROGRAMMABLE FEED-FORWARD OSCILLATOR AND TRIANGLE WAVE GENERATOR | United States | 7256623 | 14-Aug-2007 | Granted |
| STARTUP VIA FB PIN REGULATION | United States | 7088600 | 08-Aug-2006 | Granted |
| ENHANCED PLASMA ETCH PROCESS | United States | 7181306 | 20-Feb-2007 | Granted |
| SPEECH AMPLIFIER-RESIDENT MECHANISM FOR CONTROLLABLY SUPPLYING POWER TO A LINE CIRCUIT | United States | 7103178 | 05-Sep-2006 | Granted |
| CMOS-CONFIGURED TRANSCONDUCTANCE AMPLIFIER CIRCUIT | United States | 7075370 | 11-Jul-2006 | Granted |
| ENABLE AND DISABLE OF DIODE-EMULATION IN A DC/DC CONVERTER | United States | 7205751 | 17-May-2007 | Granted |
| TWO-WIRE CHIP-TO-CHIP INTERFACE | United States | 7430259 | 30-Sep-2008 | Granted |
| SYSTEM AND METHOD FOR MONITORING A CHARGING PERIOD IN A BATTERY CHARGER | United States | 7205747 | 17-Apr-2007 | Granted |
| CONTROLLER AND DRIVER ARCHITECTURE FOR DOUBLE- ENDED | United States | 7075247 | 11-Jul-2006 | Granted |

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| CIRCUITRY FOR POWERING COLD CATHODE FLUORESCENT LAMPS | | | | |
| STAGGERING SWITCHING SIGNALS FOR MULTIPLE COLD CATHODES FLUORESCENT LAMP BACKLIGHTING SYSTEM TO REDUCE ELECTRONAGNETIC INTERFERENCE | United States | 7141941 | 28-Nov-2006 | Granted |
| INTEGRATED BATTERY CHARGER AND SYSTEM REGULATOR CIRCUIT | United States | 7489109 | 10-Feb-2009 | Granted |
| APPARATUS AND METHOD FOR SLIDING-MODE CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | United States | 7282896 | 16-Oct-2007 | Granted |
| APPARATUS AND METHOD FOR FIXED-FREQUENCY CONTROL IN A SWITCHING POWER SUPPLY | United States | 7091708 | 15-Aug-2006 | Granted |
| APPARATUS AND METHOD FOR FIXED-FREQUENCY CONTROL IN A SWITCHING POWER SUPPLY | United States | 7230407 | 12-Jun-2007 | Granted |
| APPARATUS AND METHOD FOR TRANSIENT CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | United States | 7282897 | 16-Oct-2007 | Granted |
| METHOD FOR FORMING PLASMA ENHANCED DEPOSITED, FULLY OXIDIZED PSG FILM | United States | 7223706 | 29-May-2007 | Granted |
| POWER SUPPLY CIRCUIT CONTAINING MULTIPLE DC-DC CONVERTERS HAVING PROGRAMMABLE OUTPUT CURRENT CAPABILITIES | United States | 7345378 | 18-Mar-2008 | Granted |
| POWER SUPPLY CIRCUIT CONTAINING MULTIPLE DC-DC CONVERTERS HAVING PROGRAMMABLE OUTPUT CURRENT CAPABILITIES | United States | 7612465 | 03-Nov-2009 | Granted |
| TEMPERATURE COMPENSATION FOR FLOATING GATE CIRCUITS | United States | 7429888 | 30-Sep-2008 | Granted |
| APPARATUS AND METHOD FOR STATE-VARIABLE SYNTHESIS IN A SWITCHING POWER SUPPLY | United States | 7248024 | 24-Jul-2007 | Granted |
| FAULT SIGNATURE SYSTEM FOR POWER MANAGEMENT INTEGRATED CIRCUITS | United States | 7420791 | 02-Sep-2008 | Granted |
| OVER VOLTAGE AND OVER CURRENT PROTECTION INTEGRATED CIRCUIT | United States | 7394223 | 01-Jul-2008 | Granted |

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| METHOD TO PREVENT BOOSTING SYSTEM BUS WHEN CHARGING THE BATTERY | United States | 7235955 | 26-Jun-2007 | Granted |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | United States | 7368880 | 06-May-2008 | Granted |
| HIGH ACCURACY DIGITAL TO ANALOG CONVERTER USING A PARALLEL P/N TYPE R-2R RESISTOR LADDER | United States | 6975261 | 13-Dec-2005 | Granted |
| CURRENT AVERAGING CIRCUIT FOR A PWM POWER CONVERTER | United States | 7196503 | 27-Mar-2007 | Granted |
| ARCHITECTURE FOR ACHIEVING RESONANT CIRCUIT SYNCHRONIZATION OF MULTIPLE ZERO VOLTAGE SWITCHED PUSH-PULL DC-AC CONVERTERS | United States | 7054176 | 30-May-2006 | Granted |
| PRECISION FLOATING GATE REFERENCE TEMPERATURE COEFFICIENT COMPENSATION METHOD | United States | 7221209 | 22-May-2007 | Granted |
| ACTIVE POWER SUPPLY REJECTION USING NEGATIVE CURRENT GENERATION LOOP FEEDBACK | United States | 7239195 | 03-Jul-2007 | Granted |
| TRUE DIFFERENTIAL MICROPHONE AMPLIFIER | United States | 7259627 | 21-Aug-2007 | Granted |
| PHASE-ERROR CORRECTION CIRCUIT FOR A HIGH SPEED FREQUENCY SYNTHESIZER | United States | 7205798 | 17-Apr-2007 | Granted |
| PHASE-ERROR CORRECTION CIRCUIT FOR A HIGH SPEED FREQUENCY SYNTHESIZER | United States | 7498852 | 03-Mar-2009 | Granted |
| ON-CHIP EE-PROM PROGRAMMING WAVEFORM GENERATION | United States | 7158412 | 02-Jan-2007 | Granted |
| ON-CHIP EE-PROM PROGRAMMING WAVEFORM GENERATION | United States | 7502264 | 10-Mar-2009 | Granted |
| DIGITALLY SYNCHRONIZED INTEGRATOR FOR NOISE REJECTION IN SYSTEM USING PWM DIMMING SIGNALS TO CONTROL BRIGHTNESS OF | United States | 7528818 | 05-May-2009 | Granted |

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| LIGHT SOURCE | | | | |
| GROUND SKIMMING OUTPUT STAGE | United States | 7459978 | 02-Dec-2008 | Granted |
| FLEXIBLE MULTI-PULSE GENERATOR | United States | 7492686 | 17-Feb-2009 | Granted |
| SEMI-CLOCKLESS, CASCADED, CURRENT-MODE POWER REGULATOR HAVING HIGH NOISE IMMUNITY AND ARBITRARY PHASE COUNT | United States | 7215102 | 08-May-2007 | Granted |
| SYSTEMS AND METHODS FOR REDUCING HARMONICS PRODUCED BY OSCILLATORS | United States | 7386023 | 10-Jun-2008 | Granted |
| FLOATING GATE ANALOG VOLTAGE LEVEL SHIFT CIRCUIT AND METHOD FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | United States | 7113017 | 26-Sep-2006 | Granted |
| FLOATING GATE ANALOG VOLTAGE LEVEL SHIFT CIRCUIT AND METHOD FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | United States | 7345522 | 18-Mar-2008 | Granted |
| FLOATING GATE ANALOG VOLTAGE LEVEL SHIFT CIRCUIT AND METHOD FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | United States | 7345523 | 18-Mar-2008 | Granted |
| ACTIVATING A PHASE IN A MULTIPHASE DC/DC CONVERTER WITHOUT DISTURBING THE OUTPUT VOLTAGE | United States | 7023182 | 04-Apr-2006 | Granted |
| REMOVING A PHASE IN A MULTIPHASE DC/DC CONVERTER WITHOUT DISTURBING THE OUTPUT VOLTAGE | United States | 7161332 | 09-Jan-2007 | Granted |
| CURRENT FEEDBACK AMPLIFIERS | United States | 7132860 | 07-Nov-2006 | Granted |
| CURRENT FEEDBACK AMPLIFIERS | United States | 7250791 | 31-Jul-2007 | Granted |
| CURRENT FEEDBACK AMPLIFIERS | United States | 7358777 | 15-Apr-2008 | Granted |
| CURRENT FEEDBACK AMPLIFIERS WITH SEPARATE COMMON-MODE AND DIFFERENTIAL MODE-INPUTS | United States | 7116132 | 03-Oct-2006 | Granted |
| VOLTAGE TRACKING REFERENCE FOR A POWER REGULATOR | United States | 7453251 | 18-Nov-2008 | Granted |

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| CONSTANT FREQUENCY DUTY CYCLE INDEPENDENT SYNTHETIC RIPPLE REGULATOR | United States | 7145317 | 05-Dec- 2006 | Granted |
| BONDWIRE UTILIZED FOR COULOMB COUNTING AND SAFETY CIRCUITS | United States | 7332814 | 19-Feb- 2008 | Granted |
| BONDWIRE UTILIZED FOR COULOMB COUNTING AND SAFETY CIRCUITS | United States | 7550806 | 23-Jun- 2009 | Granted |
| INTEGRATED PROCESS FOR THIN FILM RESISTORS WITH SILICIDES | United States | 7341958 | 11-Mar- 2008 | Granted |
| INTEGRATED PROCESS FOR THIN FILM RESISTORS WITH SILICIDES | United States | 7662692 | 16-Feb- 2010 | Granted |
| ELECTROSTATIC DISCHARGE PROTECTION DEVICE FOR CMOS CIRCUITS AND FOR APPLICATIONS WITH INPUT/OUTPUT VOLTAGE OUTSIDE THE RANGE OF THE CORE CIRCUIT POWER SUPPLY | United States | 7285828 | 23-Oct- 2007 | Granted |
| ELECTROSTATIC DISCHARGE PROTECTION DEVICE FOR CMOS CIRCUITS AND FOR APPLICATIONS WITH INPUT/OUTPUT VOLTAGE OUTSIDE THE RANGE OF THE CORE CIRCUIT POWER SUPPLY | United States | 7479414 | 20-Jan-2009 | Granted |
| DC-AC CONVERTER HAVING PHASE- MODULATED, DOUBLE-ENDED, HALF- BRIDGE TOPOLOGY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | United States | 7560872 | 14-Jul-2009 | Granted |
| IMPROVED LINEAR REGULATOR | United States | 7196501 | 27-Mar- 2007 | Granted |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | United States | 7193551 | 20-Mar- 2007 | Granted |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | United States | 7385544 | 10-Jun- 2008 | Granted |
| DC-AC CONVERTER HAVING PHASE- MODULATED, DOUBLE-ENDED, FULL- BRIDGE TOPOLOGY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | United States | 7564193 | 21-Jul-2009 | Granted |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | United States | 7453250 | 18-Nov- 2008 | Granted |
| PFM-PWM DC-DC CONVERTER PROVIDING DC OFFSET CORRECTION TO PWM ERROR AMPLIFIER AND | United States | 7382114 | 03-Jun- 2008 | Granted |

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| EQUALIZING REGULATED VOLTAGE CONDITIONS WHEN TRANSITIONING BETWEEN PFM AND PWM MODES | | | | |
| BIDIRECTIONAL BUFFERED INTERFACE FOR CROSSPOINT SWITCH | United States | 7492826 | 17-Feb- 2009 | Granted |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | United States | 7285469 | 23-Oct- 2007 | Granted |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | United States | 7473983 | 06-Jan-2009 | Granted |
| SELF-CALIBRATING TIMING CIRCUITS FOR USE IN A SYNC SEPARATOR | United States | 7423694 | 09-Sep- 2008 | Granted |
| MODIFICATION CONSTANT-ON CONTROL SCHEME ON ZERO ESR OUTPUT CAPACITOR OPERATION CONDITION | United States | 7439721 | 21-Oct- 2008 | Granted |
| PMOS DEPLETABLE DRAIN EXTENSION MADE FROM NMOS DUAL DEPLETABLE DRAIN EXTENSIONS | United States | 7547592 | 16-Jun- 2009 | Granted |
| DEPLETABLE CATHODE LOW CHARGE STORAGE DIODE | United States | 7385246 | 10-Jun- 2008 | Granted |
| DEVICES WITH ADJUSTABLE DUAL- POLARITY TRIGGER AND HOLDING- VOLTAGE/CURRENT FOR HIGH LEVEL OF ELECTROSTATIC DISCHARGE PROTECTION IN SUB-MICRON MIXED SIGNAL CMOS/BICMOS INTEGRATED CIRCUITS | United States | 7566914 | 28-Jul-2009 | Granted |
| GATE DRIVER TOPOLOGY FOR MAXIMUM LOAD EFFICIENCY | United States | 7615940 | 10-Nov- 2009 | Granted |
| CIRCUIT FOR MULTIPLEXING DIGITAL AND ANALOG INFORMATION VIA SINGLE PIN OF DRIVER FOR SWITCHED MOSFETS OF DC-DC CONVERTER | United States | 7504816 | 17-Mar- 2009 | Granted |
| VOLTAGE REGULATOR WITH SYNCHRONIZED PHASE SHIFT | United States | 7368959 | 06-May- 2008 | Granted |
| CIRCUIT FOR GENERATING PRECISION SOFT-START FREQUENCY FOR EITHER VALUE OF ADDRESS BIT APPLIED TO EXTERNAL RESET PIN | United States | 7514992 | 07-Apr- 2009 | Granted |
| COMPENSATION OFFSET ADJUSTMENT | United States | 7489121 | 10-Feb- | Granted |

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| SCHEME FOR FAST REFERENCE VOLTAGE TRANSITIONING | | | 2009 | |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | United States | 7453246 | 18-Nov- 2008 | Granted |
| USAGE OF A BUILD CODE TO SPECIFY LAYOUT CHARACTERISTICS | United States | 7461366 | 02-Dec- 2008 | Granted |
| SLOW TAIL COMPENSATION | United States | 7180048 | 20-Feb- 2007 | Granted |
| SLOW TAIL COMPENSATION | United States | 7423252 | 09-Sep- 2008 | Granted |
| METHOD AND APPLICATION FOR SWITCHING AUDIO AND DATA SIGNALS THROUGH A SINGLE TERMINAL | United States | 7482853 | 27-Jan-2009 | Granted |
| MULTI-PHASE DC-DC CONVERTER USING AUXILIARY RESISTOR NETWORK TO FEED BACK MULTIPLE SINGLE- ENDED SENSED CURRENTS TO SUPERVISORY CONTROLLER FOR BALANCED CURRENT-SHARING AMONG PLURAL CHANNELS | United States | 7339361 | 04-Mar- 2008 | Granted |
| MULTI-PHASE DC-DC CONVERTER USING AUXILIARY RESISTOR NETWORK TO FEED BACK MULTIPLE SINGLE- ENDED SENSED CURRENTS TO SUPERVISORY CONTROLLER FOR BALANCED CURRENT-SHARING AMONG PLURAL CHANNELS | United States | 7589511 | 15-Sep- 2009 | Granted |
| AMPLIFIER WITH IMPROVED COMPENSATION TOPOLOGY AND RELATED AMPLIFIER CIRCUIT, SYSTEM, AND METHOD | United States | 7528655 | 05-May- 2009 | Granted |
| SWITCHED GATE CURRENT DRIVER | United States | 7609734 | 27-Oct- 2009 | Granted |
| HIGH VOLTAGE COMPARATOR USING SLIDING INPUT LOW VOLTAGE DEVICES | United States | 7528634 | 05-May- 2009 | Granted |
| A MULTIPLE TIME PROGRAMMABLE (MTP) PMOS FLOATING-GATE-BASED NON-VOLATILE ELEMENT FOR A GENERAL-PURPOSE CMOS TECHNOLOGY WITH THICK GATE OXIDE | United States | 7542342 | 02-Jun- 2009 | Granted |
| TWO PIN-BASED SENSING OF REMOTE | United States | 7345465 | 18-Mar- | Granted |

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| DC SUPPLY VOLTAGE DIFFERENTIAL USING PRECISION OPERATIONAL AMPLIFIER AND DIFFUSED RESISTORS | | | 2008 | |
| TWO PIN-BASED SENSING OF REMOTE DC SUPPLY VOLTAGE DIFFERENTIAL USING PRECISION OPERATIONAL AMPLIFIER AND DIFFUSED RESISTORS | United States | 7541797 | 02-Jun- 2009 | Granted |
| AUXILIARY TURN-ON MECHANISM FOR REDUCING CONDUCTION LOSS IN BODY-DIODE OF LOW SIDE MOSFET OF COUPLED-INDUCTOR DC-DC CONVERTER | United States | 7443146 | 28-Oct- 2008 | Granted |
| VOLTAGE REGULATOR HAVING CURRENT CANCELING COMPENSATION | United States | 7535211 | 19-May- 2009 | Granted |
| PHOTODIODE FOR MULTIPLE WAVELENGTH OPERATION | United States | 7485486 | 03-Feb- 2009 | Granted |
| A CMOS TEMPERATURE-TO-DIGITAL CONVERTER WITH DIGITAL CORRECTION | United States | 7686508 | 30-Mar- 2010 | Granted |
| MODULATOR CIRCUIT WITH LINEAR AND NON-LINEAR CONTROL | United States | 7471133 | 30-Dec- 2008 | Granted |
| SELF PROTECTING OUTPUT STAGE | United States | 7511931 | 31-Mar- 2009 | Granted |
| NEGATIVE CAPACITANCE SYNTHESIS | United States | 7609111 | 27-Oct- 2009 | Granted |
| ADAPTIVE FIRING ORDER CONTROL FOR DYNAMIC CURRENT BALANCE OF MULTIPHASE VOLTAGE REGULATORS | United States | 7592787 | 23-Sep- 2009 | Granted |
| USE OF SERIAL CONTROLLER TO PROGRAM A LDD, PMIC AND PDIC | United States | 7546397 | 09-Jun- 2009 | Granted |
| AUTOMATIC CIRCUIT AND METHOD FOR TEMPERATURE COMPENSATION OF OSCILLATOR FREQUENCY VARIATION OVER TEMPERATURE FOR A REAL TIME CLOCK CHIP | United States | 7371005 | 13-May- 2008 | Granted |
| METHOD FOR USING DIGITAL PLL IN A VOLTAGE REGULATOR | United States | 7592846 | 22-Sep- 2009 | Granted |
| SWITCHING FREQUENCY CONTROL OF SWITCHED CAPACITOR CIRCUIT USING OUTPUT VOLTAGE DROOP | United States | 7612603 | 03-Nov- 2009 | Granted |
| CONFIGURABLE PHOTO DETECTOR CIRCUIT | United States | 7635836 | 22-Dec- 2009 | Granted |
| DYNAMICALLY CONFIGURABLE MULTIPLE WAVELENGTH | United States | 7663087 | 16-Feb- 2010 | Granted |

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| PHOTODETECTOR ARRAY FOR OPTICAL STORAGE APPLICATIONS | | | | |
| FLASH MEMORY ARRAY OF FLOATING GATE-BASED NON-VOLATILE MEMORY CELLS | United States | 7688627 | 30-Mar-2010 | Granted |
| INPUT SAMPLING NETWORK THAT AVOIDS UNDESIRED TRANSIENT VOLTAGES | United States | 7671776 | 02-Mar-2010 | Granted |
| RF-COUPLED DIGITAL ISOLATOR | United States | 7468547 | 23-Dec-2008 | Granted |
| SLEW-ENHANCED INPUT STAGES AND AMPLIFIERS | United States | 7557659 | 07-Jul-2009 | Granted |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | United States | 7663190 | 16-Feb-2010 | Granted |
| BI-DIRECTIONAL BUFFER WITH LEVEL SHIFTING | United States | 7692450 | 06-Apr-2010 | Granted |
| BI-DIRECTIONAL BUFFER AND METHOD FOR BI-DIRECTIONAL BUFFERING THAT REDUCE GLITCHES DUE TO FEEDBACK | United States | 7639045 | 29-Dec-2009 | Granted |
| HIGH VOLTAGE LATERAL MOS STRUCTURE WITH DEPLETED TOP GATE REGION | United States | 5264719 | 23-Nov-1993 | Granted |
| PROCESS FOR FORMING TWIN WELL CMOS INTEGRATED CIRCUITS | United States | 5247199 | 21-Sep-1993 | Granted |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | United States | 5668397 | 16-Sep-1997 | Granted |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | United States | 5807780 | 15-Sep-1998 | Granted |
| HIGH FREQUENCY ANALOG TRANSISTORS, METHOD OF FABRICATION AND CIRCUIT IMPLEMENTATION | United States | 5892264 | 06-Apr-1999 | Granted |
| SELF-CALIBRATING TIMING CIRCUITS FOR USE IN A SYNC SEPARATOR | United States | 7633552 | 24-Nov-2009 | Granted |
| NOISE CANCELLATION FOR GPS ANTENNA MODULE | United States | 12/544860 | 20-Aug-2009 | Pending |
| SYNTHETIC RIPPLE REGULATOR | United States | 12/255346 | 21-Oct-2008 | Pending |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | United States | 11/344899 | 01-Feb-2006 | Pending |
| AUXILIARY TURN-ON MECHANISM FOR | United States | 12/651985 | 04-Jan-2010 | Pending |

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| REDUCING CONDUCTION LOSS IN BODY-DIODE OF LOW SIDE MOSFET OF COUPLED-INDUCTOR DC-DC CONVERTER | | | | |
| SYSTEM AND METHOD FOR BOOST-BUCK TRANSITION | United States | 12/611668 | 03-Nov-2009 | Published |
| UNIQUE CABLE EQUALIZATION ARCHITECTURE | United States | 12/582659 | 20-Oct-2009 | Pending |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | United States | 12/273441 | 18-Nov-2008 | Published |
| SOLAR CELL WITH INTEGRATED SWITCH AND CONNECTION METHOD | United States | 12/470351 | 08-Jan-2010 | Pending |
| DYNAMICALLY ADJUSTABLE LOW NOISE, LOW POWER INSTRUMENTATION AMPLIFIER | United States | 12/719792 | 08-Mar-2010 | Pending |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | United States | 11/737392 | 19-Apr-2007 | Published |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | United States | 11/737395 | 19-Apr-2007 | Pending |
| GROUND SKIMMING OUTPUT STAGE | United States | 12/325448 | 01-Dec-2008 | Published |
| CURRENT FEEDBACK AMPLIFIERS | United States | 12/037586 | 26-Feb-2008 | Pending |
| INTEGRATED PROCESS FOR THIN FILM RESISTORS WITH SILICIDES | United States | 12/689376 | 19-Jan-2010 | Pending |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | United States | 11/540698 | 29-Sep-2006 | Published |
| MODIFICATION CONSTANT-ON CONTROL SCHEME ON ZERO ESR OUTPUT CAPACITOR OPERATION CONDITION | United States | 12/254525 | 20-Oct-2008 | Published |
| DEPLETABLE CATHODE LOW CHARGE STORAGE DIODE | United States | 12/115760 | 06-May-2008 | Pending |
| CIRCUIT FOR MULTIPLEXING DIGITAL AND ANALOG INFORMATION VIA SINGLE PIN OF DRIVER FOR SWITCHED MOSFETS OF DC-DC CONVERTER | United States | 12/402302 | 11-Mar-2009 | Published |
| A MULTIPLE TIME PROGRAMMABLE (MTP) PMOS FLOATING-GATE-BASED NON-VOLATILE ELEMENT FOR A GENERAL-PURPOSE CMOS TECHNOLOGY WITH THICK GATE OXIDE | United States | 12/430007 | 24-Apr-2009 | Pending |
| DC-DC CONVERTERS HAVING IMPROVED CURRENT SENSING AND RELATED METHODS | United States | 12/409239 | 23-Mar-2009 | Published |
| METHOD OF TRICKLE CHARGING A BATTERY IN A NARROW RAIL ARCHITECTURE | United States | 12/423842 | 15-Apr-2009 | Pending |
| SYSTEM AND METHOD FOR PROGRAMMING AND CONTROLLING OVER CURRENT TRIP POINT LIMITS IN VOLTAGE REGULATORS | United States | 12/564466 | 22-Sep-2009 | Published |

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|---|---------------------|---------------------------------|--|---------------|
| DYNAMICALLY CONFIGURABLE MULTIPLE WAVELENGTH PHOTODETECTOR ARRAY FOR OPTICAL STORAGE APPLICATIONS | United States | 12/687084 | 13-Jan-2010 | Pending |
| RF-COUPLED DIGITAL ISOLATOR | United States | 12/163256 | 27-Jun-2008 | Published |
| NPN BASE FOR IMPROVED PERFORMANCE | United States | 10/944234 | 17-Sep-2004 | Published |
| SYSTEM AND METHOD FOR DECAPSULATING AN ENCAPSULATED OBJECT | United States | 11/875904 | 20-Oct-2007 | Pending |
| OVER VOLTAGE AND OVER CURRENT PROTECTION INTEGRATED CIRCUIT | United States | 12/127283 | 28-May-2008 | Published |
| DIGITALLY SYNCHRONIZED INTEGRATOR FOR NOISE REJECTION IN SYSTEM USING PWM DIMMING SIGNALS TO CONTROL BRIGHTNESS OF LIGHT SOURCE | United States | 12/409238 | 23-Mar-2009 | Published |
| PMOS DEPLETABLE DRAIN EXTENSION MADE FROM NMOS DUAL DEPLETABLE DRAIN EXTENSIONS | United States | 12/372172 | 17-Feb-2009 | Pending |
| DEVICES WITH ADJUSTABLE DUAL-POLARITY TRIGGER AND HOLDING-VOLTAGE/CURRENT FOR HIGH LEVEL OF ELECTROSTATIC DISCHARGE PROTECTION IN SUB-MICRON MIXED SIGNAL CMOS/BICMOS INTEGRATED CIRCUITS | United States | 12/420264 | 08-Apr-2009 | Pending |
| GATE DRIVER TOPOLOGY FOR MAXIMUM LOAD EFFICIENCY | United States | 12/563468 | 21-Sep-2009 | Published |
| NO-WARP LEAD FRAME | United States | 12/712170 | 24-Feb-2010 | Pending |
| IMPLEMENTING CIRCUIT WITH TRANSISTORS HAVING LOWER BREAKDOWN VOLTAGE THAN OPERATING VOLTAGE CIRCUIT | United States | 11/876084 | 22-Oct-2007 | Pending |
| PHOTODIODE FOR MULTIPLE WAVELENGTH OPERATION | United States | 12/365141 | 03-Feb-2009 | Pending |
| A CMOS TEMPERATURE-TO-DIGITAL CONVERTER WITH DIGITAL CORRECTION | United States | 12/560751 | 16-Sep-2009 | Published |
| NEGATIVE CAPACITANCE SYNTHESIS | United States | 12/475409 | 29-May-2009 | Pending |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | United States | 11/950325 | 04-Dec-2007 | Published |
| FLASH MEMORY ARRAY OF FLOATING GATE-BASED NON-VOLATILE MEMORY CELLS | United States | 12/711520 | 24-Feb-2010 | Pending |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | United States | 12/687621 | 14-Jan-2010 | Pending |
| INTEGRATED CIRCUIT RESISTOR TUNING | United States | 10/740288 | 18-Dec-2003 | Pending |
| PSEUDO-ASYNCHRONOUS ONE WIRE BIDIRECTIONAL BUS INTERFACE | United States | 10/875763 | 24-Jun-2004 | Published |
| PROGRAMMABLE HYSTERESIS IMPROVEMENT | United States | 10/917628 | 13-Aug-2004 | Published |
| APPARATUS AND METHOD OF EMPLOYING | United States | 10/927755 | 27-Aug-2004 | Published |

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|--|---------------------|---------------------------------|--|---------------|
| COMBINED SWITCHING AND PWM DIMMING SIGNALS TO CONTROL BRIGHTNESS OF COLD CATHODE FLUORESCENT LAMP USED TO BACKLIGHT LIQUID CRYSTAL DISPLAY | | | | |
| CONSTANT-ON-TIME SWITCHING POWER SUPPLY WITH VIRTUAL RIPPLE FEEDBACK AND RELATED SYSTEM AND METHOD | United States | 11/087323 | 22-Mar-2005 | Published |
| SINGLE SUPPLY VIDEO LINE DRIVER | United States | 11/204227 | 15-Aug-2005 | Pending |
| UNIQUE SCHEME FOR DEFINING WRITE STRATEGY OPERATION | United States | 11/446056 | 02-Jun-2006 | Published |
| IMPROVED ESD STRUCTURE | United States | 11/267175 | 07-Nov-2005 | Pending |
| DAMPING OF PARASITIC RESONANCE USING A RESISTIVE PARALLEL CONDUCTOR | United States | 11/394440 | 31-Mar-2006 | Published |
| AUTOMATIC FREQUENCY COMPENSATION OF VIDEO SIGNALS TRANSMITTED ACROSS CABLES | United States | 11/255360 | 21-Oct-2005 | Published |
| NO-WARP LEAD FRAME | United States | 11/453216 | 15-Jun-2006 | Pending |
| BIDIRECTIONAL COMMUNICATION PROTOCOL BETWEEN A SERIALIZER AND A DESERIALIZER | United States | 11/838064 | 14-Aug-2007 | Pending |
| SPREAD SPECTRUM CLOCK GENERATOR AND METHOD | United States | 11/838084 | 13-Aug-2007 | Pending |
| DIFFERENTIAL DRIVER WITH COMMON-MODE VOLTAGE TRACKING AND METHOD | United States | 11/838069 | 13-Aug-2007 | Pending |
| IMPLEMENTING CIRCUIT WITH TRANSISTORS HAVING LOWER BREAKDOWN VOLTAGE THAN OPERATING VOLTAGE CIRCUIT | United States | 11/624681 | 18-Jan-2007 | Pending |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE CONTROL DISPLAYS | United States | 11/609853 | 12-Dec-2006 | Published |
| HYSTERETIC POWER-SUPPLY CONTROLLER WITH ADJUSTABLE SWITCHING FREQUENCY, AND RELATED POWER SUPPLY, SYSTEM, AND METHOD | United States | 11/897681 | 31-Aug-2007 | Published |
| HYBRID LASER DRIVERS THAT INCLUDE A DECODER | United States | 11/749636 | 16-May-2007 | Published |
| MULTI-LEVEL LVDS DATA TRANSMISSION WITH EMBEDDED WORD CLOCK | United States | 11/746610 | 09-May-2007 | Pending |
| HIGH FREQUENCY CONNECTION-LESS CHARGER | United States | 11/736897 | 18-Apr-2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | United States | 11/639658 | 14-Dec-2006 | Pending |

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|---|---------------------|---------------------------------|--|---------------|
| COUPLED-INDUCTOR FOR SWITCHING POWER SUPPLY | United States | 11/903185 | 19-Sep-2007 | Published |
| HYSTERETIC MODE CONTROLER FOR CAPACITOR VOLTAGE DIVIDER | United States | 11/748450 | 05-Jun-2007 | Published |
| METHOD OF TRICKLE CHARGING A BATTERY IN A NARROW RAIL ARCHITECTURE | United States | 11/696990 | 05-Apr-2007 | Published |
| SIGMA DELTA CONVERTER SYSTEM AND METHOD | United States | 11/999256 | 03-Dec-2007 | Published |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | United States | 11/621443 | 09-Jan-2007 | Published |
| METHOD AND APPARATUS FOR EFFICIENT TRANSITIONING BETWEEN DIFFERENT OPERATING MODES OF A REGULATOR | United States | 11/869070 | 09-Oct-2007 | Pending |
| SYSTEM AND METHOD TO CALCULATE INITIAL DUTY CYCLE | United States | 11/955212 | 12-Dec-2007 | Published |
| METHOD TO CALCULATE INITIAL DUTY CYCLE | | | | |
| SYSTEM AND METHOD OF CHARGING A BATTERY AND POWER DELIVERY USING AN ADAPTER AND CAPACITOR VOLTAGE DIVIDER CIRCUIT | United States | 11/738549 | 23-Apr-2007 | Pending |
| CRADLE CHARGER CONTROLLER WITH BELOW GROUND LEVEL BIASING | United States | 11/856513 | 17-Sep-2007 | Published |
| CONSTANT CURRENT LIGHT EMITTING DIODE (LED) DRIVER CIRCUIT AND METHOD | United States | 12/002611 | 17-Dec-2007 | Pending |
| POWER-SUPPLY CONTROL | United States | 12/006726 | 04-Jan-2008 | Pending |
| AMBIENT LIGHT SENSOR USING CONVENTIONAL CMOS IMAGE SENSOR PROCESS | United States | 11/686311 | 14-Mar-2007 | Published |
| SYSTEM AND METHOD FOR PROGRAMMING AND CONTROLLING OVER CURRENT TRIP POINT LIMITS IN VOLTAGE REGULATORS | United States | 12/032328 | 15-Feb-2008 | Published |
| A BACK CURRENT LIMITING SWITCH AND RELATED BI-DIRECTIONAL CURRENT-LIMITING SWITCH | United States | 12/038334 | 27-Feb-2008 | Published |
| POWER SUPPLY WITH A MAGNETICALLY UNCOUPLED PHASE AND AN ODD NUMBER OF MAGNETICALLY COUPLED PHASES, AND CONTROL FOR A POWER SUPPLY WITH MAGNETICALLY COUPLED AND MAGNETICALLY UNCOUPLED PHASES | United States | 12/136014 | 09-Jun-2008 | Published |
| MULTI-MODULE CURRENT SHARING | United States | 11/775306 | 10-Jul-2007 | Published |

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|---|---------------------|---------------------------------|--|---------------|
| SCHEME | | | | |
| EOS ROBUST BIPOLAR TRANSIENT CLAMP | United States | 11/855829 | 14-Sep-2007 | Pending |
| MEMORY ARRAY OF FLOATING GATE-BASED NON-VOLATILE MEMORY CELLS | United States | 11/861111 | 25-Sep-2007 | Published |
| IMPROVED BURIED ISOLATION LAYER | United States | 11/877166 | 23-Oct-2007 | Pending |
| METHOD OF FORMING THE NDMOS DEVICE BODY WITH THE REDUCED NUMBER OF MASKS | United States | 11/870794 | 11-Oct-2007 | Published |
| INTEGRATED CIRCUIT WITH A SUBSURFACE DIODE | United States | 12/037569 | 26-Feb-2008 | Published |
| BALASTED POLYCRYSTALLINE FUSE | United States | 11/963236 | 21-Dec-2007 | Pending |
| METHOD FOR DETERMINATION OF INPUT CURRENT INTO A SWITCHING REGULATOR EXCLUSIVE OF A DEDICATED SENSE ELEMENT | United States | 12/080263 | 31-Mar-2008 | Published |
| CONTROLLER AND DRIVER COMMUNICATION FOR SWITCHING REGULATORS | United States | 11/935535 | 06-Nov-2007 | Pending |
| CONTROLLER HAVING COMP NODE VOLTAGE SHIFT CANCELLATION FOR IMPROVED DISCONTINUOUS CONDUCTION MODE (DCM) REGULATOR PERFORMANCE AND RELATED METHODS | United States | 11/879074 | 16-Jul-2007 | Pending |
| DYNAMIC CONVERTER TOPOLOGY | United States | 12/105731 | 18-Apr-2008 | Pending |
| DYNAMIC CONVERTER TOPOLOGY | United States | 12/148787 | 21-Apr-2008 | Pending |
| HIGHLY LINEAR BOOTSTRAPPED SWITCH WITH IMPROVED RELIABILITY | United States | 12/141027 | 17-Jun-2008 | Pending |
| PULSE-ADDING SCHEME FOR SMOOTH PHASE DROPPING AT LIGHT LOAD CONDITION | United States | 11/954888 | 12-Dec-2007 | Published |
| JUNCTION BARRIER SCHOTTKY DIODE | United States | 12/107177 | 22-Apr-2008 | Pending |
| HYBRID LASER DIODE DRIVERS THAT INCLUDE A STATE MACHINE | United States | 11/749703 | 16-May-2007 | Published |
| CIRCUITS AND METHODS TO PRODUCE A VPTAT AND/OR A BANDGAP VOLTAGE | United States | 12/111796 | 29-Apr-2008 | Published |
| DEACTIVATING PARALLEL MOSFETS TO IMPROVE LIGHT LOAD EFFICIENCY | United States | 12/131531 | 02-Jun-2008 | Pending |
| SENSING A PHASE-PATH CURRENT IN A MULTIPHASE POWER SUPPLY SUCH AS A COUPLED-INDUCTOR POWER SUPPLY | United States | 12/189112 | 08-Aug-2008 | Published |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | United States | 11/849565 | 04-Sep-2007 | Pending |
| STACKABLE ELECTRONIC COMPONENT | United States | 12/2002985 | 02-Sep-2008 | Published |
| OVER-VOLTAGE PROTECTED BATTERY CHARGER WITH BYPASS | United States | 11/931969 | 31-Oct-2007 | Published |
| CLOSED LOOP, STEADY STATE FREQUENCY CONTROL OF VARIABLE FREQUENCY | United States | 12/046342 | 11-Mar-2008 | Published |

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| SWITCHER ARCHITECTURES | | | | |
| COUPLED-INDUCTOR CORE FOR UNBALANCED PHASE CURRENTS | United States | 12/136018 | 09-Jun-2008 | Published |
| LOAD CURRENT COMPENSATION IN SYNCHRONOUS POWER CONVERTERS | United States | 12/176759 | 21-Jul-2008 | Pending |
| BUCK-BOOST REGULATOR | United States | 12/134800 | 06-Jun-2008 | Pending |
| DEAD-TIME TRANSITION ADJUSTMENTS FOR SYNCHRONOUS POWER CONVERTERS | United States | 12/176762 | 21-Jul-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | United States | 12/178050 | 23-Jul-2008 | Pending |
| ANALOG SWITCH WITH OVERCURRENT DETECTION | United States | 12/235274 | 22-Sep-2008 | Pending |
| THRESHOLD VOLTAGE MONITORING AND CONTROL IN SYNCHRONOUS POWER CONVERTERS | United States | 12/116092 | 06-May-2008 | Pending |
| LEAKAGE CURRENT CANCELLATION TECHNIQUE FOR INTEGRATED ANALOG SWITCHES | United States | 12/261087 | 30-Oct-2008 | Pending |
| ANALOG SWITCH ARCHITECTURE FOR OPERATION OUTSIDE OF POWER RAILS | United States | 12/260721 | 30-Oct-2008 | Pending |
| ARCHITECTURE FOR HIGHLY ACCURATE DCP | United States | 12/242926 | 01-Oct-2008 | Pending |
| INTEGRATED EFFICIENCY OPTIMIZATION LOOP FOR MULTI-PHASE BUCK VRS | United States | 12/334440 | 12-Dec-2008 | Pending |
| A COEFFICIENT COMPRESSION METHOD TO STORE LARGE NUMBER OF FIR COEFFICIENTS | United States | | 12-Sep-2008 | Published |
| SWITCHING REGULATOR WITH BALANCED CONTROL CONFIGURATION TO ELIMINATE COMPENSATION | United States | 12/324368 | 26-Nov-2008 | Published |
| BANDGAP VOLTAGE REFERENCE CIRCUIT | United States | 11/968551 | 02-Jan-2008 | Published |
| SUB-VOLT BANDGAP VOLTAGE REFERENCE WITH BUFFERED CTAT BIAS | United States | 12/350899 | 08-Jan-2009 | Pending |
| MODULATOR WITH LINEAR PERIOD STRETCHING CAPABILITY | United States | 12/173602 | 15-Jul-2008 | Pending |
| SYSTEM AND METHOD FOR IMPROVING INDUCTOR CURRENT SENSING ACCURACY OF A DC/DC VOLTAGE REGULATOR | United States | 12/329147 | 05-Dec-2008 | Published |
| BI-DIRECTIONAL OPEN DRAIN BUFFER WITH REDUCED OFFSET | United States | 12/060829 | 01-Apr-2008 | Pending |
| PROXIMITY SENSORS AND METHODS FOR SENSING PROXIMITY | United States | 12/101047 | 10-Apr-2008 | Published |
| CLIP MOUNT FOR INTEGRATED CIRCUIT AND FRAMES | United States | 12/250,525 | 13-Oct-2008 | Pending |
| AC AND DC TEMPERATURE COMPENSATION SCHEME FOR DCR CURRENT SENSE | United States | 12/339500 | 19-Dec-2008 | Pending |

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| ANALOG TO DIGITAL CONVERSION BY SYNCHRONOUS PULSE WIDTH MODULATOR/SWITCHED CAPACITOR RESISTOR FEED BACK | United States | 12/378818 | 18-Feb-2009 | Pending |
| POWER-SUPPLY CONTROL | United States | 12/006703 | 04-Jan-2008 | Published |
| SYSTEM AND METHOD FOR PROVIDING PULSE FREQUENCY MODULATION MODE | United States | 12/506672 | 21-Jul-2009 | Published |
| QUASI TRANSITION DIODE EMULATION | United States | 12/558035 | 11-Sep-2009 | Published |
| SYSTEM AND METHOD OF PROVIDING CONTROL PULSES TO CONTROL OPERATION OF A CONVERTER WITH HIGH FREQUENCY REPETITIVE LOAD TRANSIENTS | United States | 12/350560 | 26-Jan-2009 | Pending |
| METHOD AND SYSTEM FOR DIMMING AC-POWERED LIGHT EMITTING DIODE (LED) LIGHTING SYSTEMS USING CONVENTIONAL INCANDESCENT DIMMERS | United States | 12/366642 | 05-Feb-2009 | Published |
| WAVEFORM CURRENT MONITOR USING RDSON OF LOW-SIDE BRIDGE FET | United States | 12/248355 | 09-Oct-2008 | Published |
| HIGH-SIDE SENSING OF ZERO INDUCTOR CURRENT FOR STEP DOWN DC-DC CONVERTER | United States | 12/204344 | 04-Sep-2008 | Pending |
| HYBRID LASER DIODE DRIVERS | United States | 12/277912 | 25-Nov-2008 | Published |
| DEVICE UNDER TEST POWER SUPPLY | United States | 12/408157 | 20-Mar-2009 | Pending |
| VARYING OPERATION OF A VOLTAGE REGULATOR, AND COMPONENTS THEREOF, BASED UPON LOAD CONDITIONS | United States | 12/192234 | 15-Aug-2008 | Published |
| DYNAMIC HEADROOM CONTROL FOR LED DRIVER | United States | 12/492748 | 26-Jun-2009 | Published |
| POWER SUPPLY WITH A MAGNETICALLY UNCOUPLED PHASE AND AN ODD NUMBER OF MAGNETICALLY COUPLED PHASES, AND CONTROL FOR A POWER SUPPLY WITH MAGNETICALLY COUPLED AND MAGNETICALLY UNCOUPLED PHASES | United States | 12/136023 | 09-Jun-2008 | Pending |
| CHOPPER STABILIZED AMPLIFIER | United States | 12/144384 | 23-Jun-2008 | Published |
| BOOST REGULATOR USING SYNTHETIC RIPPLE REGULATION | United States | 12/134910 | 06-Jun-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK CONVERTER AND BATTERY CHARGER | United States | 12/178223 | 23-Jul-2008 | Pending |
| POWER-SUPPLY CONTROLLER WITH DIFFERENT STEADY STATE AND TRANSIENT RESPONSE CHARACTERISTICS | United States | 12/498287 | 06-Jul-2009 | Pending |
| DUAL USE OF TIMING CAPACITOR FOR INTEGRATOR FUNCTION | United States | 12/430172 | 27-Apr-2009 | Published |

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| BUCK BOOST FUNCTION BASED ON CAPACITOR BOOTSTRAP INPUT BUCK CONVERTER | United States | 12/480823 | 09-Jun-2009 | Published |
| ADAPTIVE CURRENT LIMIT FOR USB CHARGER APPLICATIONS | United States | 12/428741 | 23-Apr-2009 | Pending |
| BUCK REGULATOR INPUT CURRENT CALCULATOR | United States | 12/550081 | 28-Aug-2009 | Published |
| ADVANCED PHASE NUMBER CONTROL FOR IMPROVED EFFICIENCY AND FAST TRANSIENT RESPONSE IN MULTIPHASE CONVERTER APPLICATIONS | United States | 12/501204 | 10-Jul-2009 | Published |
| STACKED FETS FOR A POWER CONVERTER | United States | 12/424666 | 16-Apr-2009 | Pending |
| A SINGLE EXTERNAL RESISTOR OUTPUT IMPEDANCE CONTROL CIRCUIT FOR PROVIDING CONSTANT OUTPUT IMPEDANCE FOR MULTIPLE DRIVERS OF A CHIP OPERATING AT DIFFERENT SUPPLY VOLTAGES | United States | 12/419869 | 07-Apr-2009 | Pending |
| BUCK CONTROLLER INTEGRATED WITH BOOST CONTROL AND DRIVER | United States | 12/482818 | 11-Jun-2009 | Published |
| SYSTEM AND METHOD FOR REDUCING VOLTAGE OVERSHOOT DURING LOAD RELEASE WITHIN A BUCK REGULATOR | United States | 12/506722 | 21-Jul-2009 | Published |
| CURRENT SENSE CASCODE AMPLIFIER | United States | 12624704 | 24-Nov-2009 | Pending |
| RADIATION HARDENED DEVICE | United States | 12/372893 | 18-Feb-2009 | Published |
| IMPROVED DUAL RAMP MODULATOR | United States | 12/492397 | 26-Jun-2009 | Pending |
| PWM CLOCK GENERATION SYSTEM AND METHOD TO IMPROVE TRANSIENT RESPONSE OF A VOLTAGE REGULATOR | United States | 12/490752 | 24-Jun-2009 | Published |
| CONSTANT LOOP GAIN CONTROL FOR BUCK REGULATOR/MODULE | United States | 12/539035 | 11-Aug-2009 | Pending |
| ADVANCED SLOPE INJECTION FOR INPUT CURRENT LIMITING OF SWITCH-MODE DC/DC CONVERTER | United States | 12/428739 | 23-Apr-2009 | Published |
| CHARGER IC WITH BUILT-IN USB DETECTION | United States | 12/423056 | 14-Apr-2009 | Published |
| VOTER TESTER FOR REDUNDANT SYSTEMS | United States | 12/604292 | 22-Oct-2009 | Pending |
| SYSTEM AND METHOD FOR BOOST-BUCK TRANSITION | United States | 12/429241 | 24-Apr-2009 | Published |
| PHASE SWAPPER SCHEME FOR IMPROVED PHASE CURRENT BALANCE IN PHASE DOUBLER | United States | 12/429238 | 24-Apr-2009 | Published |
| SWITCHABLE SOLAR CELL DEVICES | United States | 12/470325 | 21-May-2009 | Pending |
| CALIBRATION OF TWO-CHANNEL TIME-INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | United States | 12/419599 | 07-Apr-2009 | Pending |
| UNIQUE CABLE EQUALIZATION ARCHITECTURE | United States | 12/412280 | 26-Mar-2009 | Pending |

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| SYSTEM AND METHOD FOR PHASE DROPPING AND ADDING | United States | 12/730372 | 24-Mar-2010 | Pending |
| FAULT TOLERANT REDUNDANT CLOCK CIRCUIT | United States | 12/620,454 | 17-Nov-2009 | Pending |
| PWM VOLTAGE CONVERTER WITH TRANSIENT AND PERMANENT FAULT IMMUNITY THROUGH REDUNDANCY AND FEEDBACK ADJUSTMENT | United States | 12/622278 | 19-Nov-2009 | Pending |
| CO-PACKAGING APPROACH FOR POWER CONVERTERS BASED ON PLANAR DEVICES, STRUCTURE AND METHOD | United States | 12/470229 | 21-May-2009 | Pending |
| TESTER INTERFACE BOARD WITH REMOVABLE TEST SITES | United States | 12/688903 | 17-Jan-2010 | Pending |
| DYNAMIC PHASE TIMING CONTROL FOR MULTIPLE REGULATORS OR PHASES | United States | 12/650772 | 31-Dec-2009 | Pending |
| IMPROVED N-BIT PIN ADC READER | United States | 12/631998 | 07-Dec-2009 | Pending |
| ACTIVE DROOP CURRENT SHARING | United States | 12/505492 | 19-Jul-2009 | Published |
| ADDING AND DROPPING PHASES IN CURRENT SHARING | United States | 12/505493 | 19-Jul-2009 | Published |
| INTELLIGENT MANAGEMENT OF CURRENT SHARING GROUP | United States | 12/505494 | 19-Jul-2009 | Published |
| METHOD TO PROPERLY RAMP CURRENT SHARING RAIL | United States | 12/505495 | 19-Jul-2009 | Published |
| STACKED POWER CONVERTER STRUCTURE AND METHOD | United States | 12/477818 | 03-Jun-2009 | Pending |
| SINGLE DIE OUTPUT POWER STAGE USING TRENCH-GATE LOW-SIDE AND LDMOS HIGH-SIDE MOSFETS, STRUCTURE AND METHOD | United States | 12/471911 | 26-May-2009 | Pending |
| RANDOMIZATION OF SAMPLE WINDOW IN CALIBRATION OF TIME INTERLEAVED ANALOG TO DIGITAL CONVERTER | United States | 12/749882 | 30-Mar-2010 | Pending |
| ASYMMETRIC ZERO-VOLTAGE SWITCHING FULL-BRIDGE POWER CONVERTERS | United States | 12/651433 | 31-Dec-2009 | Pending |
| A CIRCUIT TO MULTIPLEX A CURRENT LIMITING INPUT TO AN OPEN-DRAIN OUTPUT | United States | 12/482527 | 11-Jun-2009 | Pending |
| OPTICAL SENSORS AND METHODS FOR PROVIDING OPTICAL SENSORS | United States | 12/499693 | 08-Jul-2009 | Pending |
| SOLAR CELL WITH INTEGRATED SWITCH AND CONNECTION METHOD | United States | 12/470351 | 21-May-2009 | Pending |
| UN-BUFFERED SEGMENTED R-DAC WITH SWITCH CURRENT REDUCTION | United States | 12/713841 | 26-Feb-2010 | Pending |
| SYSTEM AND METHOD FOR DETERMINING OUTPUT VOLTAGE LEVEL INFORMATION FROM PHASE VOLTAGE FOR SWITCHED MODE REGULATOR CONTROLLERS | United States | 12/700103 | 04-Feb-2010 | Pending |
| METHOD OF INTERCONNECT CHECKING | United States | 12/494031 | 30-Jun-2009 | Pending |

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| AND VERIFICATION FOR MULTIPLE ESD SPECIFICATIONS | | | | |
| DATA LOOK AHEAD TO REDUCE POWER CONSUMPTION | United States | 12/607924 | 28-Oct-2009 | Pending |
| LINEARIZING DAC FOR PICO PROJECTOR LASER DIODE DRIVERS | United States | 12/607929 | 28-Oct-2009 | Pending |
| LOW THERMAL RESISTANCE AND ROBUST CHIP-SCALE-PACKAGE (CSP), STRUCTURE AND METHOD | United States | 12/612616 | 04-Nov-2009 | Pending |
| TRANSIENT SUPPRESSION FOR BOOT REGULATOR | United States | 12/492755 | 26-Jun-2009 | Published |
| CONTROL MODE FOR ZVS CONVERTER AT RESONANT OPERATING FREQUENCIES | United States | 12/651875 | 04-Jan-2010 | Pending |
| A SCHEME OF PFM PWM MODE TRANSITION IN MULTIPLE PHASE BUCK CONVERTER | United States | 12/603218 | 21-Oct-2009 | Pending |
| USE OF THE NEGATIVE CAPACITANCE CIRCUIT WITH AN EQUALIZER | United States | 12/604955 | 23-Oct-2009 | Pending |
| CELL BALANCING AND CHARGING | United States | 12/650775 | 31-Dec-2009 | Pending |
| O-RING PHASES FOR OVERCOME THE DUTY CYCLE LIMITATION ISSUE IN MULTIPHASE BOOST CONVERTER | United States | 12/651012 | 31-Dec-2009 | Pending |
| OPTICAL SENSORS THAT REDUCE SPECTRAL REFLECTIONS | United States | 12/499723 | 08-Jul-2009 | Pending |
| SYSTEM AND METHOD FOR CONTROLLING SYNCHRONOUS SWITCH FOR A SYNCHRONOUS CONVERTER | United States | 12/694594 | 27-Jan-2010 | Pending |
| WAY OUT OF BALANCE (WOB) CURRENT CORRECTION FOR USE WITH A MULTI-PHASE DC-DC CONVERTER | United States | 12/691438 | 21-Jan-2010 | Pending |
| COMPONENT FAULT DETECTION FOR USE WITH A MULTI-PHASE DC-DC CONVERTER | United States | 12/691589 | 21-Jan-2010 | Pending |
| CALIBRATION OF OFFSET, GAIN AND PHASE ERRORS IN M-CHANNEL TIME-INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | United States | 12691449 | 21-Jan-2010 | Pending |
| PROXIMITY SENSORS WITH IMPROVED AMBIENT LIGHT REJECTION | United States | 12716220 | 02-Mar-2010 | Pending |
| DEPLETED TOP GATE JUNCTION FIELD EFFECT TRANSISTOR (DTG JFET) | United States | 12726855 | 18-Mar-2010 | Pending |
| LOW NOISE, LOW POWER INSTRUMENTATION AMPLIFIER | United States | 12/627959 | 30-Nov-2009 | Pending |
| SERIES/PARALLEL POWER SUPPLY SWITCHING | United States | 12707103 | 17-Feb-2010 | Pending |
| IMPROVED TIE-BAR CONFIGURATION FOR LEADFRAME TYPE CARRIER STRIPS CROSS-REFERENCE TO RELATED APPLICATION | United States | 12/699811 | 03-Feb-2010 | Pending |
| ADAPTIVE PWM CONTROL AT MULTI | United States | 12/705783 | 15-Feb-2010 | Pending |

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|---|---------------------|---------------------------------|--|---------------|
| CHANNEL LED DRIVER IC | | | | |
| ELECTROSTATIC DISCHARGE CLAMP WITH CONTROLLED HYSTERESIS INCLUDING SELECTABLE TURN ON AND TURN OFF THRESHOLD VOLTAGES | United States | 12/721172 | 10-Mar-2010 | Pending |
| MONOLITHIC OUTPUT STAGE WITH VERTICLE HIGH-SIDE PMOS AND VERTICLE LOW-SIDE NMOS INTERCONNECTED USING BURIED METAL, STRUCTURE AND METHOD | United States | 12/717976 | 05-Mar-2010 | Pending |
| INTEGRATOR FOR PROVIDING OVERSHOOT PROTECTION AND LIGHT SWITCHING MODE DURING NON-ZERO LOAD CONDITION FOR AN LED DRIVER CIRCUIT | United States | 12/730960 | 24-Mar-2010 | Pending |
| DIAMOND SOI WITH THIN SILICON NITRIDE LAYER | United States | 12/719988 | 09-Mar-2010 | Pending |
| APPARATUS AND METHODOLOGY FOR MAXIMUM POWER POINT TRACKING FOR A SOLAR PANEL | United States | 12/716654 | 03-Mar-2010 | Pending |
| OPTICAL SENSORS THAT REDUCE SPECTRAL REFLECTIONS | United States | 12/643831 | 21-Dec-2009 | Pending |
| CIRCUITS AND METHODS TO PRODUCE A BANDGAP VOLTAGE WITH LOW-DRIFT | United States | 12/717052 | 03-Mar-2010 | Pending |
| ROTATING GAIN RESISTORS TO PRODUCE A BANDGAP VOLTAGE WITH LOW-DRIFT | United States | 12/718840 | 05-Mar-2010 | Pending |
| ACCURACY IMPROVEMENT METHODOLOGY WHICH ALLOWS CHIP-BY-CHIP MEASUREMENT CORRECTION | United States | 11/399547 | 06-Apr-2006 | Published |
| METHOD AND SYSTEM FOR DATA TRANSMISSION AND RECOVERY | United States | 11/446488 | 01-Jun-2006 | Published |
| USE OF DIFFERENTIAL PAIR AS SINGLE-ENDED DATA PATHS TO TRANSPORT LOW SPEED DATA | United States | 11/601070 | 17-Nov-2006 | Pending |
| TECHNIQUES TO PRECHARGE THE BOOT CAP IN SWITCHING REGULATORS WITH HIGH PRE BIAS VOLTAGE | United States | 12/611701 | 03-Nov-2009 | Pending |
| HIGH SPEED SERDES WITH BACK CHANNEL COMMUNICATIONS: THE FREQUENCY DIVISION APPROACH | United States | 61/234484 | 17-Aug-2009 | Pending |
| A ROBUST 2-WIRE DAISY CHAIN COMMUNICATIONS SYSTEM | United States | 61/176800 | 08-May-2009 | Pending |
| RANDOMIZATION AS A TECHNIQUE TO IMPROVE GENERAL APPLICABILITY OF INTERLEAVE CALIBRATION FOR ANALOG TO DIGITAL CONVERTERS | United States | 61/222381 | 10-Jul-2009 | Pending |
| METHOD TO FINE ADJUST RESISTANCE OF POLYSILICON RESISTORS | United States | 61/172373 | 24-Apr-2009 | Pending |

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| LONG RANGE PROXIMITY AND/OR MOTION DETECTOR WITH AMBIENT LIGHT DETECTION CAPABILITIES | United States | 61/173951 | 29-Apr-2009 | Pending |
| ENHANCEMENT-MODE AlGaIn/GaN HEMT WITH SELF-ALIGNED ASYMMETRIC AlGaIn GATE FIELD PLATE STRUCTURE AND METHOD | United States | 61/219995 | 24-Jun-2009 | Pending |
| SAMPLING METHOD FOR TIME-INTERLEAVED DATA CONVERTERS IN FREQUENCY-MULTIPLEXED COMMUNICATIONS SYSTEMS | United States | 61/265168 | 30-Nov-2009 | Pending |
| CALIBRATION OF OFFSET, GAIN AND PHASE ERRORS IN M-CHANNEL TIME-INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | United States | 61/233571 | 13-Aug-2009 | Pending |
| COMPENSATED BURST MODE CONTROL | United States | 61/242753 | 15-Sep-2009 | Pending |
| POWER SUPPLY WITH INRUSH CURRENT CONTROL | United States | 61/227772 | 22-Jul-2009 | Pending |
| POWER SUPPLY WITH INRUSH CURRENT CONTROL | United States | 61/232735 | 10-Aug-2009 | Pending |
| HYSTERETIC CONTROLLED BUCK-BOOST CONTROLLER | United States | 61/252054 | 15-Oct-2009 | Pending |
| EQUALIZING THE SMALL SIGNAL RESPONSE OF VARIABLE PHASE VOLTAGE REGULATORS | United States | 61/260720 | 12-Nov-2009 | Pending |
| TRIAC DIMMING INRUSH CURRENT LIMITING IN AN LED DRIVER | United States | 61/230989 | 03-Aug-2009 | Pending |
| IMPROVED TIE-BAR CONFIGURATION FOR LEADFRAME TYPE CARRIER STRIPS CROSS-REFERENCE TO RELATED APPLICATION | United States | 61/231998 | 06-Aug-2009 | Pending |
| WAFER-LEVEL COATING FOR AMBIENT LIGHT SENSOR AND PROXIMITY SENSOR | United States | 61/244817 | 22-Sep-2009 | Pending |
| WAFER-LEVEL COATING FOR AMBIENT LIGHT SENSOR AND PROXIMITY SENSOR | United States | 61/259475 | 09-Nov-2009 | Pending |
| INFRARED SUPPRESSING PHOTO-PATTERNABLE COATING FOR PHOTODETECTING SEMICONDUCTOR DIE OR GLASS APPLICATIONS | United States | 61/257595 | 03-Nov-2009 | Pending |
| LOW-GLITCH PRECONDITIONING CIRCUIT FOR VOLTAGE REFERENCE WITH DYNAMIC ELEMENT MATCHING | United States | 61/249948 | 08-Oct-2009 | Pending |
| SEEDED DIAMOND FILM METHOD/DIAMOND DAMASCENE METHOD | United States | 61/286440 | 15-Dec-2009 | Pending |
| SYSTEM AND METHOD FOR PROGRAMMING A TIME DELAY FOR PHASE SHIFTING IN A DC/DC CONVERTER | United States | 61/249371 | 07-Oct-2009 | Pending |
| POCI3 DOPED G-SOI LAYER | United States | 61/291059 | 30-Dec-2009 | Pending |

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| DIAMOND HEAT SPREADER STRUCTURE | United States | 61286467 | 15-Dec-2009 | Pending |
| OFFLINE LINEARITY CORRECTION TECHNIQUE OR (N+M) BIT DACS | United States | 61/260801 | 12-Nov-2009 | Pending |
| NOISE CANCELLATION FOR GPS ANTENNA MODULE | United States | 61/090872 | 21-Aug-2009 | Pending |
| NON-ISOLATED SHIFTED TRANSFORMER POWER TRAIN | United States | 61/243290 | 17-Sep-2009 | Pending |
| NON-ISOLATED SHIFTED TRANSFORMER POWER TRAIN | United States | 61/306130 | 19-Feb-2010 | Pending |
| TRENCH ISOLATION USING DIAMOND REFILL | United States | 61/291165 | 30-Dec-2009 | Pending |
| NEGATIVE VOLTAGE DETECT AND CLAMP FOR CMOS SWITCHES | United States | 61/249362 | 07-Oct-2009 | Pending |
| METHOD FOR ACCURATELY MEASURING CURRENTS USING ON CHIP SENSE RESISTORS | United States | 61/253904 | 22-Oct-2009 | Pending |
| AUTO-COMPENSATING POWER CONVERTER | United States | 61/244187 | 21-Sep-2009 | Pending |
| SINGLE-CYCLE CHARGE REGULATOR FOR POWER CONVERTERS | United States | 61/296694 | 21-Jan-2010 | Pending |
| APPLICATION SPECIFIC POWER CONVERTERS | United States | 61/298340 | 26-Jan-2010 | Pending |
| METHOD TO GETTER CONTAMINATION IN BONDED SOI WAFERS USING RESIDUAL GRIND DAMAGE | United States | 61/262624 | 19-Nov-2009 | Pending |
| AN RS-485 RECEIVER WITH A FULL FAIL- SAFE POLARITY INVERSION FUNCTION | United States | 61/250487 | 09-Oct-2009 | Pending |
| DIAMOND SOI WITH THIN SILICON NITRIDE LAYER | United States | 61/299702 | 29-Jan-2010 | Pending |
| A SINGLE MASK ISOLATION, SINKER AND DEEP-BASE STRUCTURE AND METHOD | United States | 61/261043 | 13-Nov-2009 | Pending |
| SINGLE MASK THIN FILM RESISTOR INTEGRATION INTO A CMP BACKEND | United States | 61/264942 | 30-Nov-2009 | Pending |
| SINGLE MASK THIN FILM RESISTOR INTEGRATION INTO A CMP BACKEND | United States | 61/318856 | 30-Mar-2010 | Pending |
| INTEGRATED GUARDED SCHOTTKY DIODE COMPATIBLE WITH TRENCH-GATE DMOS; STRUCTURE AND METHOD | United States | 61/263618 | 23-Nov-2009 | Pending |
| OPEN LOOP DIMMING IN AN LED DRIVER | United States | 61/257803 | 03-Nov-2009 | Pending |
| HEAT CONDUCTION IDEAS FOR CHIP STACKS/3D CIRCUITS | United States | 61/285325 | 10-Dec-2009 | Pending |
| HEAT CONDUCTION IDEAS FOR CHIP STACKS/3D CIRCUITS | United States | 61/295292 | 15-Jan-2010 | Pending |
| POWER SUPPLY WITH LOW POWER CONSUMPTION HICCUP STANDBY OPERATION | United States | 61/256738 | 30-Oct-2009 | Pending |
| TRENCH GUARDED SCHOTTKY DIODE COMPATIBLE WITH POWER DIE; | United States | 61/259399 | 09-Nov-2009 | Pending |

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| STRUCTURE AND METHOD | | | | |
| TRENCH GUARDED SCHOTTKY DIODE COMPATIBLE WITH POWER DIE; STRUCTURE AND METHOD | United States | 61/291147 | 30-Dec-2009 | Pending |
| INTEGRATED LDMOS AND SCHOTTKY | United States | 61/291124 | 30-Dec-2009 | Pending |
| SINGLE HALF DIE BRIDGE MADE BY LATERAL MOSFETS CONNECTED THROUGH SUBSTRATE | United States | 61/256145 | 24-Nov-2009 | Pending |
| STARTUP METHOD FOR SYSTEM WITH INDEPENDENT REGULATION | United States | 61/262631 | 19-Nov-2009 | Pending |
| CORRECTION OF NON-LINEARITIES IN ADCS | United States | 61/305609 | 18-Feb-2010 | Pending |
| PARTITIONED COLOR, DOUBLE RATE VIDEO DATA TRANSFER METHOD | United States | 61/290861 | 29-Dec-2009 | Pending |
| PACKAGING A STACK UP COUPLE INDUCTOR MAGNETIC | United States | 61/267117 | 07-Dec-2009 | Pending |
| IMPROVED APPARATUS AND METHODOLOGY FOR AUTOMATIC PHASE ADJUSTMENT OF A PWM OUTPUT SIGNAL OF A PROGRAMMABLE POWER SUPPLY CONTROLLER | United States | 61/263456 | 23-Nov-2009 | Pending |
| INTEGRATED SENSE RESISTOR COMPATIBLE WITH POWERDIE; STRUCTURE AND METHOD | United States | 61/308565 | 26-Feb-2010 | Pending |
| SINGLE DIE HALF-BRIDGE MADE BY LATERAL MOSFETS CONNECTED THROUGH SUBSTRATE WITH INTEGRATED SCHOTTKY | United States | 61/291107 | 30-Dec-2009 | Pending |
| ISOLATED BI-DIRECTION DC-DC CONVERTER STRUCTURE | United States | 61/288798 | 21-Dec-2009 | Pending |
| ISOLATED BI-DIRECTION DC-DC CONVERTER STRUCTURE | United States | 61/319842 | 31-Mar-2010 | Pending |
| PA LINEARIZATION WITH CANCELLATION- BASED PRE-DISTORTION METHOD | United States | 61300328 | 01-Feb-2010 | Pending |
| PA LINEARIZATION WITH CANCELLATION- BASED FEED-FORWARD METHOD | United States | 61/316608 | 23-Mar-2010 | Pending |
| IN-BAND INTERFERER REDUCTION FOR SHARED ANTENNA (WIRELESS LAN AND BLUETOOTH) WITH CANCELLATION-BASED METHOD | United States | 61/308647 | 26-Feb-2010 | Pending |
| SYSTEM AND METHOD TO REDUCE IDLE CHANNEL CURRENT AND NOISE FLOOR BY RAMPING DOWN NOISE SHAPER COEFFICIENTS | United States | 61/293586 | 08-Jan-2010 | Pending |
| HIGH INPUT POWER CASCADED FILTER BASED IN-BAND PA NOISE CANCELLER FOR SENSITIVE RECEIVER (MOBILE TV TUNER, GPS etc) | United States | 61/308697 | 26-Feb-2010 | Pending |
| ANALOG SWITCH WITH INTERNAL DEVICE | United States | 61296752 | 20-Jan-2010 | Pending |

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| BODY CONTROL | | | | |
| PHOTO DETECTOR IC FOR PICO-PROJECTOR APPLICATIONS | United States | 61/296987 | 21-Jan-2010 | Pending |
| MONOLITHIC INTEGRATION OF GAN AND SILICON DEVICES AND CIRCUITS; STRUCTURE AND METHOD | United States | 61/299013 | 28-Jan-2010 | Pending |
| A HIGH PRECISION CURRENT SENSING METHOD FOR USE IN AN INTEGRATED CIRCUIT | United States | 61/298686 | 27-Jan-2010 | Pending |
| ARCHITECTURE FOR A REFLECTION BASED LONG RANGE PROXIMITY AND MOTION DETECTOR HAVING AN INTEGRATED AMBIENT LIGHT SENSOR | United States | 61298895 | 27-Jan-2010 | Pending |
| NOVEL CONTROL SCHEME OF SINGLE INDUCTOR DUAL OUTPUT DC-DC CONVERTER FOR SOLAR AND MODULE APPLICATION | United States | 61/300579 | 02-Feb-2010 | Pending |
| SYSTEM AND METHOD FOR NON-INVERTING BUCK BOOST CONVERTERS | United States | 61/299511 | 29-Jan-2010 | Pending |
| IMPROVED METHOD OF MAKING SEMICONDUCTOR DEVICE WITH LOW PINCH OFF JFET SECTION FORMED BELOW SEMICONDUCTOR SURFACE | United States | 61/303996 | 12-Feb-2010 | Pending |
| ULTRASONIC FEATURE WITH ULTRA LOW QUIESCENT CURRENT FOR DC-DC COVNERTER | United States | 61/316226 | 22-Mar-2010 | Pending |
| MODULATION SCHEME WITH A SINGLE COMPARATOR FOR CONSTANT FREQUENCY BUCK-BOOST CONVERTER | United States | 61/315587 | 19-Mar-2010 | Pending |
| METHOD FOR IMPLEMENTATION OF AN R4 MODULATED SWITCH MODE CONVERTER AS MULTIPHASE OR MULTIMODULE | United States | 61/317761 | 26-Mar-2010 | Pending |
| METHOD OF FABRICATING A SEMICONDUCTOR DEVICE LAYER WITH BURIED LAYERS ONTO A BURIED INSULATOR/HANDLE WAFER STRUCTURE | United States | 61/317083 | 24-Mar-2010 | Pending |
| SILICON PHOTODETECTOR/DEMODULATOR USING CONDUCTIVE TRENCH CONTACTS TO ENHANCE LATERAL ELECTRIC FIELD | United States | 61/321972 | 08-Apr-2010 | Pending |
| INTERMITTENT DIODE BRAKING SCHEME | United States | 61320043 | 01-Apr-2010 | Pending |
| NOVEL LINEAR PWM EXTENSION FOR HIGH DUTY CYCLE APPLICATIONS | United States | 61/307586 | 24-Feb-2010 | Pending |
| LASER DECAPSULATION APPARATUS AND METHOD | United States | 12/435441 | 05-May-2009 | Pending |
| CURRENT MODE DC/DC CONVERTER WITH CONTROLLED OUTPUT IMPEDANCE | United States | 11/294700 | 05-Dec-2005 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|-----------|
| SYNCHRONOUS-RECTIFIED DC TO DC CONVERTER WITH IMPROVED CURRENT SENSING AND ASSOCIATED METHODS | United States | 11/337925 | 23-Jan-2006 | Pending |
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | United States | 12/325874 | 01-Dec-2008 | Pending |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | United States | 11/726407 | 21-Mar-2007 | Pending |
| A SEMICONDUCTOR DEVICE MANUFACTURING WITH A REDUCED MASK COUNT BURIED LAYER | United States | 10/958229 | 05-Oct-2004 | Pending |
| ACTIVE MODE LINE VOLTAGE REGULATOR FOR RINGING SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 12/260697 | 29-Oct-2008 | Pending |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | United States | 12/426884 | 20-Apr-2009 | Pending |
| METHOD OF SETTING BI-DIRECTIONAL OFFSET IN A PWM CONTROLLER USING A SINGLE PIN | United States | 12/254450 | 20-Oct-2008 | Pending |
| METHOD AND STRUCTURE FOR NON-SINGLE-POLYCRYSTALLINE CAPACITOR IN AN INTEGRATED CIRCUIT | United States | 12/200307 | 28-Aug-2008 | Pending |
| METHOD TO PREVENT BOOSTING SYSTEM BUS WHEN CHARGING THE BATTERY | United States | 12/492635 | 26-Jun-2009 | Pending |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | United States | 12/547882 | 26-Aug-2009 | Pending |
| SWITCHING AMPLIFIER OPTIMIZED FOR MINIMAL AND STABLE OUTPUT SEMICONDUCTOR DEAD TIMES | United States | 12/270692 | 13-Nov-2008 | Published |
| SYSTEMS AND METHODS FOR IMPROVED OVER-CURRENT CLIPPING | United States | 12/346211 | 30-Dec-2008 | Published |
| SILICON-CONTROLLED RECTIFIER (SCR) DEVICE FOR HIGH-VOLTAGE ELECTROSTATIC DISCHARGE (ESD) APPLICATIONS | United States | 12/366159 | 05-Feb-2009 | Pending |
| <p><i>* The following registered patents were assigned to Intersil Americas, Inc. pursuant to a Contribution Agreement between Intersil Communications, Inc. (formerly Intersil Corporation) and Intersil Americas, Inc., dated December 31, 2001. However, the USPTO records indicate that the current holder of these patents is Intersil Corporation.</i></p> | | | | |
| HIGH SPEED DIFFERENTIAL | United States | 5329187 | 12-Jul-1994 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| COMPARATOR | | | | |
| HIGH SPEED DIFFERENTIAL COMPARATOR | United States | 5332931 | 26-Jul-1994 | Granted |
| SPIRAL EDGE PASSIVATION STRUCTURE FOR SEMICONDUCTOR DEVICES | United States | 5382825 | 17-Jan-1995 | Granted |
| LOW INDUCTANCE POWER PACKAGE DESIGN | United States | 5569957 | 29-Oct- 1996 | Granted |
| LEVEL SHIFT CIRCUIT WITH COMMON MODE REJECTION | United States | 5105099 | 14-Apr- 1992 | Granted |
| BRIDGE CONTROL CIRCUIT AND METHOD | United States | 5870266 | 09-Feb- 1999 | Granted |
| DIFFERENTIAL AMPLIFIER WITH HYSTERISIS | United States | 5367211 | 22-Nov- 1994 | Granted |
| CIRCUIT FOR PROVIDING A CURRENT PROPORTIONAL TO ABSOLUTE TEMPERATURE | United States | 5334929 | 02-Aug- 1994 | Granted |
| COMPARATOR AMPLIFIER | United States | 5287068 | 15-Feb- 1994 | Granted |
| IMPROVED NON-LINEAR OTA | United States | 5307023 | 26-Apr- 1994 | Granted |
| ELECTRICALLY PROGRAMMABLE MEMORY CELL | United States | 5640346 | 17-Jun- 1997 | Granted |
| OVER-VOLTAGE SENSOR WITH HYSTERESIS | United States | 5335132 | 02-Aug- 1994 | Granted |
| BIMOS CURRENT DRIVER CIRCUIT | United States | 5262689 | 16-Nov- 1993 | Granted |
| INDUCTIVE LOAD DUMP CIRCUIT | United States | 5347169 | 13-Sep- 1994 | Granted |
| AMPLIFIER WITH HIGH COMMON MODE REJECTION | United States | 5287071 | 15-Feb- 1994 | Granted |
| AMPLIFIER SYSTEM FOR LOW LEVEL SIGNAL | United States | 5406223 | 11-Apr- 1995 | Granted |
| FAIL-SAFE MOS SHUTDOWN CIRCUITRY | United States | 5574609 | 12-Nov- 1996 | Granted |
| DIFFERENTIAL VOLTAGE MONITOR USING A BRIDGE CIRCUIT WITH RESISTORS ON AND OFF OF AN INTEGRATED CIRCUIT | United States | 5583442 | 10-Dec- 1996 | Granted |
| INTEGRATED CIRCUIT THERMAL SENSOR | United States | 5359236 | 25-Oct- 1994 | Granted |
| CURRENT RISE AND FALL TIME LIMITED VOLTAGE FOLLOWER | United States | 5420499 | 30-May- 1995 | Granted |
| APPARATUS FOR CONTROLLING THE | United States | 5610792 | 11-Mar- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| RESET OF A BUS CONNECTED TRANSCIEVER | | | 1997 | |
| REVERSE CURRENT FLOW PREVENTION IN A DIFFUSED RESISTOR | United States | 5608259 | 04-Mar- 1997 | Granted |
| CURRENT MIRROR WITH SATURATION LIMITING | United States | 5508551 | 16-Apr- 1996 | Granted |
| DIRECT THERMOCOMPRESSSION BONDING TECHNOLOGY FOR THIN ELECTRONIC POWER CHIP PACKAGES | United States | 5206186 | 27-Apr- 1993 | Granted |
| DIRECT THERMOCOMPRESSSION BONDING TECHNOLOGY FOR THIN ELECTRONIC POWER CHIP PACKAGES | United States | 5304847 | 19-Apr- 1994 | Granted |
| DIRECT BONDING OF COPPER TO ALUMINUM NITRIDE SUBSTRATES | United States | 5418002 | 23-May- 1995 | Granted |
| SIMULATION OF NOISE BEHAVIOR OF NON-LINEAR CIRCUIT | United States | 5682336 | 28-Oct- 1997 | Granted |
| DOUBLE DUTY CAPACITOR CIRCUIT AND METHOD | United States | 5528682 | 18-Jun- 1996 | Granted |
| CURRENT MODE RING TRIP DETECTOR | United States | 5671272 | 23-Sep- 1997 | Granted |
| A FILTER WITH REDUCED ELEMENT RATINGS AND METHOD | United States | 5572162 | 05-Nov- 1996 | Granted |
| METHOD FOR MAKING OHMIC CONTACT TO LIGHTLY DOPED ISLAND FROM A SILICIDE BURIED LAYER AND APPLICATION | United States | 5643821 | 01-Jul-1997 | Granted |
| METHOD FOR MAKING OHMIC CONTACT TO LIGHTLY DOPED ISLAND FROM A SILICIDE BURIED LAYER AND APPLICATION | United States | 5895953 | 20-Apr- 1999 | Granted |
| TWO TRIM CURRENT SOURCE AND METHOD FOR A DIGITAL-TO-ANALOG CONVERTER | United States | 5923209 | 13-Jul-1999 | Granted |
| PROCESS FOR DOPING TWO LEVELS OF A DOUBLE POLY BIPOLAR TRANSISTOR AFTER FORMATION OF SECOND POLY LAYER | United States | 5614422 | 25-Mar- 1997 | Granted |
| PROCESS FOR DOPING TWO LEVELS OF A DOUBLE POLY BIPOLAR TRANSISTOR AFTER FORMATION OF SECOND POLY LAYER | United States | 5686322 | 11-Nov- 1997 | Granted |
| PROCESS FOR DOPING TWO LEVELS OF A DOUBLE POLY BIPOLAR TRANSISTOR AFTER FORMATION OF SECOND POLY | United States | 5776814 | 07-Jul-1998 | Granted |

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|--|---------------|-------------------------|-------------------------------|---------|
| LAYER | | | | |
| A DIFFERENTIAL LONGITUDINAL AMPLIFIER FOR SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 5649009 | 15-Jul-1997 | Granted |
| SAMPLED DATA BIASING OF CONTINUOUS TIME INTEGRATED CIRCUIT | United States | 5621355 | 15-Apr- 1997 | Granted |
| SIGMA DELTA ANALOG TO DIGITAL CONVERTER WITH THREE POINT CALIBRATION APARATUS AND METHOD | United States | 5598157 | 28-Jan-1997 | Granted |
| INTEGRATED CIRCUIT AIR BRIDGE STRUCTURES AND METHOD OF FABRICATING SAME | United States | 6211056 | 03-Apr- 2001 | Granted |
| INTEGRATED CIRCUIT AIR BRIDGE STRUCTURES AND METHOD OF FABRICATING SAME | United States | 6492705 | 10-Dec- 2002 | Granted |
| NON-UNIFORMLY NITRIDED GATE OXIDE AND METHOD | United States | 5650344 | 22-Jul-1997 | Granted |
| NON-UNIFORMLY NITRIDED GATE OXIDE AND METHOD | United States | 5808348 | 15-Sep- 1998 | Granted |
| PLASMA CLEANING METHOD FOR IMPROVED DIE TO SUBSTRATE SOLDERABILITY | United States | 5833758 | 10-Nov- 1998 | Granted |
| DIRECT ETCH FOR THIN FILM RESISTOR USING A HARD MASK | United States | 5547896 | 20-Aug- 1996 | Granted |
| DEVICE AND METHOD FOR ENHANCING THERMAL AND HIGH FREQUENCY PERFORMANCE OF INTEGRATED CIRCUIT PACKAGES | United States | 5581444 | 03-Dec- 1996 | Granted |
| A BI-MOS DRIVER CIRCUIT WITH REDUCED POWER SUPPLY GLITCHES | United States | 5576654 | 19-Nov- 1996 | Granted |
| SURFACE MOUNT DIE BY HANDLE REPLACEMENT | United States | 5807783 | 15-Sep- 1998 | Granted |
| SURFACE MOUNT DIE BY HANDLE REPLACEMENT | United States | 6114768 | 05-Sep- 2000 | Granted |
| PRE-BOND CAVITY AIR BRIDGE | United States | 5949144 | 07-Sep- 1999 | Granted |
| CONFIGURATION DEPENDENT AUTO- BIASING OF BIPOLAR TRANSISTOR | United States | 5625566 | 29-Apr- 1997 | Granted |
| LID WAFER BOND PACKAGING AND MICROMACHINING | United States | 5798557 | 25-Aug- 1998 | Granted |
| LID WAFER BOND PACKAGING AND MICROMACHINING | United States | 5915168 | 22-Jun- 1999 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|----------------------------|---------|
| DEVICE AND METHOD FOR IMPROVING CORROSION RESISTANCE AND ETCH TOOL INTEGRITY IN DRY METAL ETCHING | United States | 5830279 | 03-Nov-1998 | Granted |
| LEVEL SHIFTER WITH IMPROVED REJECTION OF VOLTAGE VARIATIONS | United States | 5627489 | 06-May-1997 | Granted |
| SWITCH CONTROLLER AND METHOD | United States | 5636274 | 03-Jun-1997 | Granted |
| HIGH VOLTAGE, JUNCTION ISOLATION SEMICONDUCTOR DEVICE HAVING DUAL CONDUCTIVITY TYPE BURIED REGIONS AND ITS PROCESS OF MANUFACTURE | United States | 5567978 | 22-Oct-1996 | Granted |
| HIGH VOLTAGE, JUNCTION ISOLATION SEMICONDUCTOR DEVICE HAVING DUAL CONDUCTIVITY TYPE BURIED REGIONS AND ITS PROCESS OF MANUFACTURE | United States | 5837553 | 17-Nov-1998 | Granted |
| BONDED WAFER | United States | 5603779 | 18-Feb-1997 | Granted |
| BONDED WAFER | United States | 5744852 | 28-Apr-1998 | Granted |
| FAST RECOVERY TEMPERATURE COMPENSATED PRECISION REFERENCE SOURCE | United States | 5621307 | 15-Apr-1997 | Granted |
| HIGH EFFICIENCY QUASI-VERTICAL DMOS IN A CMOS OR BICMOS PROCESS | United States | 5777362 | 07-Jul-1998 | Granted |
| HIGH EFFICIENCY POWER MOS SWITCH | United States | 5689129 | 18-Nov-1997 | Granted |
| HIGH EFFICIENCY POWER MOS SWITCH | United States | 5973368 | 26-Oct-1999 | Granted |
| PILOT TRANSISTOR FOR QUASI-VERTICAL DMOS | United States | 5684305 | 04-Nov-1997 | Granted |
| METHOD AND CIRCUIT FOR FAILSAFE SWITCH-HOOK DETECTION DURING FAULT IN A TELEPHONE SYSTEM | United States | 5812658 | 22-Sep-1998 | Granted |
| CIRCUIT AND METHOD FOR LOOPBACK TEST AND ON-HOOK TRANSMISSION INTEGRATED INTO A TELEPHONE SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 5659570 | 19-Aug-1997 | Granted |
| LOCAL OXIDATION PROCESS FOR HIGH FIELD THRESHOLD APPLICATIONS | United States | 5580816 | 03-Dec-1996 | Granted |
| IMPROVED DISCRETE PROGRAMMING | United States | 5666083 | 09-Sep- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| METHODOLOY AND CIRCUIT FOR AN ACTIVE TRANSCONDUCTANCE C- FILTER | | | 1997 | |
| STATISTICALLY BASED CURRENT GENERATOR CIRCUIT | United States | 5701097 | 23-Dec- 1997 | Granted |
| SEMICONDUCTOR PACKAGING APPARATUS | United States | 5965933 | 12-Oct- 1999 | Granted |
| SEMICONDUCTOR PACKAGING APPARATUS | United States | 6114191 | 05-Sep- 2000 | Granted |
| CRC GENERATION & DETECTION METHOD | United States | 5724370 | 03-Mar- 1998 | Granted |
| METHOD OF SCALING THE OUTPUTS OF A BINARY COUNTER | United States | 5526392 | 11-Jun- 1996 | Granted |
| MODIFICATION OF TIMING IN AN EMULATOR CIRCUIT AND METHOD | United States | 5678030 | 14-Oct- 1997 | Granted |
| MULTIPLE USE TIMER AND METHOD FOR PULSE WIDTH GENERATION, ECHO FAILURE DETECTION, AND RECEIVE PULSE WIDTH MEASUREMENT | United States | 5661736 | 26-Aug- 1997 | Granted |
| CIRCUIT AND METHOD FOR SYNCHRONIZING OUTPUTS OF TWO SIMULTANEOUSLY TRANSMITTING DEVICES IN A MULTIPLEXED COMMUNICATION SYSTEM | United States | 6108352 | 22-Aug- 2000 | Granted |
| EFFICIENT BATTERY OPERATED INVERTER CIRCUIT FOR CAPACITIVE LOADS SUCH AS ELECTROLUMINESCENT LAMPS | United States | 5525869 | 11-Jun- 1996 | Granted |
| BATTERY OPERATED INVERTER CIRCUIT FOR CAPACITIVE LOADS SUCH AS ELECTROLUMINESCENT LAMPS | United States | 5557175 | 17-Sep- 1996 | Granted |
| INTEGRATED CIRCUIT WITH AN AIR BRIDGE HAVING A LID | United States | 5825092 | 20-Oct- 1998 | Granted |
| INTEGRATED CIRCUIT HAVING ENHANCED TRANSIENT VOLTAGE PROTECTION AND ASSOCIATED METHODS | United States | 5708549 | 13-Jan-1998 | Granted |
| MULTICHANNEL SIGMA-DELTA A/D CONVERTERS WITH IMPROVED THROUGHPUT | United States | 5617090 | 01-Apr- 1997 | Granted |
| METHOD AND CIRCUIT FOR PREVENTING FORWARD BIAS OF A PARASITIC DIODE IN AN INTEGRATED | United States | 5675281 | 07-Oct- 1997 | Granted |

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|--|---------------------|---------------------------------|--|---------------|
| CIRCUIT | | | | |
| ELECTRICALLY VARIABLE R/C NETWORK AND METHOD | United States | 5767757 | 16-Jun-1998 | Granted |
| COMPLEMENTARY MULTIPLEXER WITH LOW DISABLED-OUTPUT CAPACITANCE, AND METHOD | United States | 5923207 | 13-Jul-1999 | Granted |
| COMPLEMENTARY MULTIPLEXER WITH LOW DISABLED-OUTPUT CAPACITANCE, AND METHOD | United States | 6114896 | 05-Sep-2000 | Granted |
| AUTOMATIC FAULT MONITORING SYSTEM AND MOTOR CONTROL SYSTEM INCORPORATING SAME | United States | 5642247 | 24-Jun-1997 | Granted |
| COMPOSITION, AND METHOD FOR USING SAME, FOR ETCHING METALLIC ALLOYS FROM A SUBSTRATE | United States | 5587103 | 24-Dec-1996 | Granted |
| ELECTROLUMINESCENT LAMP DRIVER SYSTEM | United States | 5539707 | 23-Jul-1996 | Granted |
| DEFECT CONTROL IN FORMATION OF DIELECTRICALLY ISOLATED SEMICONDUCTOR DEVICE REGIONS | United States | 5750432 | 12-May-1998 | Granted |
| ELECTROSTATIC DISCHARGE PROTECTION DEVICE | United States | 5883414 | 16-Mar-1999 | Granted |
| ELECTROSTATIC DISCHARGE PROTECTION DEVICE | United States | 6051457 | 18-Apr-2000 | Granted |
| SEMI-INSULATING WAFER | United States | 5773151 | 30-Jun-1998 | Granted |
| METHOD OF MAKING A REFERENCE CURRENT GENERATOR | United States | 5686822 | 11-Nov-1997 | Granted |
| ARRANGEMENT & METHOD FOR IMPROVING ROOM-TEMPERATURE TESTABILITY OF CMOS INTEGRATED CIRCUITS OPTIMIZED FOR CRYOGENIC TEMPERATURE OPERATOR | United States | 5696452 | 09-Dec-1997 | Granted |
| METHOD OF MANUFACTURING A PROGRAMMABLE HYBRID BALANCE NETWORK | United States | 5610093 | 11-Mar-1997 | Granted |
| TESTING CIRCUIT FOR A CODEC HYBRID BALANCE NETWORK | United States | 5717736 | 10-Feb-1998 | Granted |
| DIFFERENTIAL INTERPOLATION SWITCHED CAPACITOR FILTER AND METHOD | United States | 5680072 | 21-Oct-1997 | Granted |
| TEMPERATURE INSENSITIVE BANDGAP VOLTAGE GENERATOR TRACKING POWER SUPPLY VARIATIONS | United States | 5856742 | 05-Jan-1999 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| OFFSET ADJUSTMENT FOR FULLY DIFFERENTIAL AMPLIFIERS | United States | 5736885 | 07-Apr-1998 | Granted |
| SIGN BIT INTEGRATOR AND METHOD | United States | 5617473 | 01-Apr-1997 | Granted |
| METHOD OF BONDING WAFERS HAVING VIAS INCLUDING CONDUCTIVE MATERIAL | United States | 5646067 | 08-Jul-1997 | Granted |
| SURFACE MOUNTABLE INTEGRATED CIRCUIT WITH CONDUCTIVE VIAS | United States | 5608264 | 04-Mar-1997 | Granted |
| INTEGRATED CIRCUIT WITH COAXIAL ISOLATION AND METHOD | United States | 5814889 | 29-Sep-1998 | Granted |
| INTEGRATED CIRCUIT WITH EDGE CONNECTIONS AND METHOD | United States | 5668409 | 16-Sep-1997 | Granted |
| SYSTEM FOR INTERCONNECTING STACKED INTEGRATED CIRCUITS | United States | 5682062 | 28-Oct-1997 | Granted |
| WIDE COMMON MODE RANGE COMPARATOR AND METHOD | United States | 5614852 | 25-Mar-1997 | Granted |
| WIDE COMMON MODE RANGE COMPARATOR AND METHOD | United States | 5789949 | 04-Aug-1998 | Granted |
| INVERTED BJT CURRENT SOURCES/SINKS IN RF CIRCUITS AND METHODS | United States | 5654662 | 05-Aug-1997 | Granted |
| PHASE METER AND METHOD OF PROVIDING A VOLTAGE INDICATIVE OF A PHASE DIFFERENCE | United States | 5831423 | 03-Nov-1998 | Granted |
| UP-CONVERSION MECHANISM EMPLOYING SIDE LOBE-SELECTIVE PRE-DISTORTION FILTER AND FREQUENCY REPLICA-SELECTING BANDPASS FILTER RESPECTIVELY INSTALLED UPSTREAM AND DOWNSTREAM OF DIGITAL-TO-ANALOG CONVERTER | United States | 5930301 | 27-Jul-1999 | Granted |
| DC-TO-DC CONVERTER HAVING ENHANCED CONTROL FEATURES AND ASSOCIATED METHODS | United States | 5793193 | 11-Aug-1998 | Granted |
| DC-TO-DC CONVERTER HAVING FAST OVER-CURRENT DETECTION AND ASSOCIATED METHODS | United States | 5821740 | 13-Oct-1998 | Granted |
| DC-TO-DC CONVERTER HAVING CHARGE PUMP AND ASSOCIATED METHODS | United States | 5808883 | 15-Sep-1998 | Granted |
| METHOD TO IMPROVE THE PEAK-CURRENT LIMIT IN SLOPE- | United States | 5717322 | 10-Feb-1998 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| COMPENSATED, CURRENT-MODE DC/DC CONVERTERS | | | | |
| METHOD & APPARATUS FOR RADIATION HARDENED ISOLATION | United States | 5670413 | 23-Sep- 1997 | Granted |
| COMMON MODE STABILIZING CIRCUIT AND METHOD | United States | 5668468 | 16-Sep- 1997 | Granted |
| CURRENT-CONTROLLED CARRIER TRACKING FILTER FOR IMPROVED SPURIOUS SIGNAL SUPPRESSION | United States | 5953379 | 14-Sep- 1999 | Granted |
| CURRENT-CONTROLLED CARRIER TRACKING FILTER FOR IMPROVED SPURIOUS SIGNAL SUPPRESSION | United States | 6233293 | 15-May- 2001 | Granted |
| CARRIER BUFFER HAVING CURRENT- CONTROLLED TRACKING FILTER FOR SPURIOUS SIGNAL SUPPRESSION | United States | 5736903 | 07-Apr- 1998 | Granted |
| DIGITALLY PROGRAMMABLE DIFFERENTIAL ATTENUATOR WITH TRACKING COMMON MODE REFERENCE | United States | 5742204 | 21-Apr- 1998 | Granted |
| INTERPOLATING DIGITAL TO ANALOG CONVERTER ARCHITECTURE FOR IMPROVED SPURIOUS SIGNAL SUPPRESSION | United States | 5798724 | 29-Aug- 1998 | Granted |
| CLOCK -CONTROLLED PRECISION MONOSTABLE CIRCUIT | United States | 5920219 | 06-Jul-1999 | Granted |
| CHARGE BASED FREQUENCY LOCKED LOOP AND METHOD | United States | 5841324 | 24-Nov- 1998 | Granted |
| REDUCED WIDTH, DIFFERENTIALLY DOPED VERTICAL JFET DEVICE | United States | 5945699 | 31-Aug- 1999 | Granted |
| PLANARIZATION METHOD BY THE USE OF PARTICLE DISPERSION AND SUBSEQUENT THERMAL FLOW | United States | 5837603 | 17-Nov- 1998 | Granted |
| A CIRCUIT FOR DRIVING AN ELECTROLUMINESCENT LAMP | United States | 5677599 | 14-Oct- 1997 | Granted |
| LOW DISTORTION CURRENT FEEDBACK AMPLIFIER WITH DYNAMIC BIASING | United States | 5977829 | 02-Nov- 1999 | Granted |
| SEMICONDUCTOR DEVICE WITH DOPED SEMICONDUCTOR AND DIELECTRIC TRENCH SIDEWALL LAYERS | United States | 5856700 | 05-Jan-1999 | Granted |
| FLAT POWER PACK | United States | 6057612 | 02-May- 2000 | Granted |
| PROCESS FOR FORMING A SELF- ALIGNED RAISED SOURCE/DRAIN MOS DEVICE AND DEVICE THEREFROM | United States | 5804846 | 08-Sep- 1998 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| WAFER TRENCH ARTICLE AND PROCESS | United States | 5933746 | 03-Aug-1999 | Granted |
| WAFER TRENCH ARTICLE AND PROCESS | United States | 6365953 | 02-Apr-2002 | Granted |
| INTEGRATED CIRCUIT ANALOG-TO-DIGITAL CONVERTER AND ASSOCIATED CALIBRATION METHOD AND APPARATUS | United States | 5771012 | 23-Jun-1998 | Granted |
| INTEGRATED CIRCUIT CONTAINING DEVICES DIELECTRICALLY ISOLATED AND JUNCTION ISOLATED FROM A SUBSTRATE | United States | 5841169 | 24-Nov-1998 | Granted |
| DOUBLE DIFFUSED MOS DEVICE AND METHOD | United States | 5817564 | 06-Oct-1998 | Granted |
| HIGH VOLTAGE PROTECTION CIRCUITS | United States | 5663860 | 02-Mar-1998 | Granted |
| DIGITAL-TO-ANALOG CONVERTER HAVING ENHANCED CURRENT STEERING AND ASSOCIATED METHOD | United States | 5790060 | 04-Aug-1998 | Granted |
| DEEP TRENCH ETCH ON BONDED SILICON WAFER | United States | 5914280 | 22-Jun-1999 | Granted |
| DEEP TRENCH ETCH ON BONDED SILICON WAFER | United States | 6198150 | 06-Mar-2001 | Granted |
| P COLLECTOR HV PMOS SWITCH VT ADJUSTED SOURCE | United States | 5770880 | 23-Jun-1998 | Granted |
| RADIATION HARDENED DIELECTRIC FOR EEPROM | United States | 5808353 | 15-Sep-1998 | Granted |
| RADIATION HARDENED DIELECTRIC FOR EEPROM | United States | 6130172 | 10-Oct-2000 | Granted |
| NETWORK FOR IMPROVING ELECTRO-MAGNETIC INTERFERENCE RESPONSE | United States | 5920224 | 06-Jul-1999 | Granted |
| NETWORK FOR IMPROVING ELECTRO-MAGNETIC INTERFERENCE RESPONSE | United States | 6091274 | 18-Jul-2000 | Granted |
| RECONFIGURABLE FILTER SYSTEM | United States | 5719326 | 17-Feb-1998 | Granted |
| KNOCK SENSOR SYSTEM FOR DETECTING AND RESPONDING TO A DISCONNECT CONDITION (AS AMENDED) | United States | 5942677 | 24-Aug-1999 | Granted |
| COMPARATOR WITH SMALL SIGNAL SUPPRESSION CIRCUITRY | United States | 5892375 | 06-Apr-1999 | Granted |
| COMPARATOR WITH SMALL SIGNAL SUPPRESSION CIRCUITRY | United States | 6060913 | 09-May-2000 | Granted |
| PIVOT SAMPLE BLOCK CROSS-SECTION | United States | 5830048 | 03-Nov- | Granted |

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| TOOL | | | 1998 | |
| MULTILAYER MICROTIP PROBE AND METHOD | United States | 5892223 | 06-Apr-1999 | Granted |
| INTERPOLATOR USING A PLURALITY OF POLYNOMIAL EQUATIONS AND ASSOCIATED METHODS | United States | 5949695 | 07-Sep-1999 | Granted |
| RE-SAMPLING CIRCUIT AND ASSOCIATED METHOD | United States | 5764113 | 09-Jun-1998 | Granted |
| ADJUSTABLE PHASE CLOCK CIRCUIT USING THE SAME AND RELATED METHODS | United States | 5990713 | 23-Nov-1999 | Granted |
| INTEGRATED CIRCUIT CHIP STRUCTURE FOR IMPROVED PACKAGING | United States | 5900643 | 04-May-1999 | Granted |
| METHOD AND APPARATUS FOR CALIBRATING INTEGRATED CIRCUIT ANALOG-TO-DIGITAL CONVERTERS | United States | 5861826 | 19-Jan-1999 | Granted |
| ESD LOCATING APPARATUS AND METHOD | United States | 6064340 | 16-May-2000 | Granted |
| INTEGRATED CIRCUIT WITH THIN FILM RESISTORS AND A METHOD FOR CO-PATTERNING THIN FILM RESISTORS WITH DIFFERENT COMPOSITIONS | United States | 5976944 | 02-Nov-1999 | Granted |
| DRIVER CIRCUIT PROVIDING CONTROLLABLE BATTERY OVERLOAD PROTECTION | United States | 5744984 | 28-Apr-1998 | Granted |
| RING GENERATOR | United States | 6167131 | 26-Dec-2000 | Granted |
| METHOD FOR FORMING COMPLIMENTARY WELLS AND SELF-ALIGNED TRENCH WITH A SINGLE MASK | United States | 5956583 | 21-Sep-1999 | Granted |
| INVERTED THIN FILM RESISTOR AND METHOD FOR MANUFACTURE | United States | 6034411 | 07-Mar-2000 | Granted |
| INVERTED THIN FILM RESISTOR AND METHOD FOR MANUFACTURE | United States | 6121105 | 19-Sep-2000 | Granted |
| PROCESSOR CONTROLLED ANALOG-TO-DIGITAL CONVERTER CIRCUIT | United States | 5892472 | 06-Apr-1999 | Granted |
| DC-DC CONVERTER HAVING DYNAMIC REGULATOR WITH CURRENT SOURCING AND SINKING MEANS | United States | 5926384 | 20-Jul-1999 | Granted |
| HERMETIC THIN PACK SEMICONDUCTOR DEVICE | United States | 6157076 | 05-Dec-2000 | Granted |
| METHOD OF CREATING A SOLDERABLE METAL LAYER ON GLASS OR CERAMIC | United States | 6159663 | 20-Dec-2000 | Granted |

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|---|---------------------|---------------------------------|--|---------------|
| SCHMITT TRIGGER-CONFIGURED ESD PROTECTION CIRCUIT | United States | 5978192 | 02-Nov-1999 | Granted |
| DEFECT GETTERING BY INDUCED STRESS | United States | 5929508 | 27-Jul-1999 | Granted |
| DEFECT GETTERING BY INDUCED STRESS | United States | 6274460 | 14-Aug-2001 | Granted |
| LOOP IMPEDANCE MEASURING APPARATUS AND METHOD FOR SUBSCRIBER LOOP INTERFACE CIRCUITS | United States | 6434232 | 13-Aug-2002 | Granted |
| PROGRAMMABLE SUBSCRIBER LOOP INTERFACE CIRCUIT AND METHOD | United States | 6665398 | 16-Dec-2003 | Granted |
| APPARATUS AND METHOD FOR TESTING SUBSCRIBER LOOP INTERFACE CIRCUITS | United States | 6519322 | 11-Feb-2003 | Granted |
| APPARATUS AND METHOD FOR TESTING SUBSCRIBER LOOP INTERFACE CIRCUITS | United States | 7020248 | 28-Mar-2006 | Granted |
| RF COMMUNICATIONS SYSTEM OPERABLE IN THE PRESENCE OF A REPETITIVE INTERFERENCE SOURCE AND RELATED METHODS | United States | 6006071 | 21-Dec-1999 | Granted |
| BATTERY SWITCHING SUBSCRIBER LOOP INTERFACE CIRCUIT | United States | 6233335 | 15-May-2001 | Granted |
| CONSTANT SLEW-RATE AMPLIFIER | United States | 6040707 | 21-Mar-2000 | Granted |
| DIGITAL-TO-ANALOG CONVERTER INCLUDING CURRENT CELL MATRIX WITH ENHANCED LINEARITY AND ASSOCIATED METHODS | United States | 5949362 | 07-Sep-1999 | Granted |
| SAMPLE-AND-HOLD CIRCUIT HAVING REDUCED SUBTHRESHOLD CONDUCTION EFFECTS AND RELATED METHODS | United States | 6069502 | 30-May-2000 | Granted |
| SAMPLE AND HOLD CIRCUIT HAVING REDUCED AMPLIFIER OFFSET EFFECTS AND RELATED METHODS | United States | 6016067 | 18-Jan-2000 | Granted |
| CO-PATTERNING THIN-FILM RESISTORS OF DIFFERENT COMPOSITIONS WITH A CONDUCTIVE HARD MASK AND METHOD FOR SAME | United States | 6441447 | 27-Aug-2002 | Granted |
| SC-2 BASED PRE-THERMAL TREATMENT WAFER CLEANING PROCESS | United States | 5932022 | 03-Aug-1999 | Granted |

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|--|---------------------|---------------------------------|--|---------------|
| IGBT GATE DRIVE CIRCUIT WITH SHORT CIRCUIT PROTECTION | United States | 6275093 | 14-Aug-2001 | Granted |
| DECAPSULATING METHOD AND APPARATUS FOR INTEGRATED CIRCUIT PACKAGES | United States | 6054012 | 25-Apr-2000 | Granted |
| DECAPSULATING METHOD AND APPARATUS FOR INTEGRATED CIRCUIT PACKAGES | United States | 6457506 | 01-Oct-2002 | Granted |
| DEVICES WITH PATTERNED WELLS AND METHOD FOR FORMING SAME | United States | 6555894 | 29-Apr-2003 | Granted |
| SUBSAMPLING DIGITIZER-BASED FREQUENCY SYNTHESIZER | United States | 6603362 | 05-Aug-2003 | Granted |
| MULTIPLE OUTPUT DC-TO-DC CONVERTER HAVING ENHANCED NOISE MARGIN AND RELATED METHODS | United States | 6058030 | 02-May-2000 | Granted |
| ANALOG-TO-DIGITAL CONVERTER HAVING ENHANCED ACCURACY GAIN STAGE, AND ASSOCIATED DEVICES AND METHODS | United States | 6107950 | 22-Aug-2000 | Granted |
| SAMPLE-AND-HOLD CIRCUIT HAVING REDUCED PARASITIC DIODE EFFECTS AND RELATED METHODS | United States | 6002277 | 14-Dec-1999 | Granted |
| PARASITIC CURRENT BARRIERS | United States | 6278186 | 21-Aug-2001 | Granted |
| DIGITAL-TO-ANALOG CONVERTER HAVING ENHANCED ACCURACY AND ASSOCIATED METHODS | United States | 6118398 | 12-Sep-2000 | Granted |
| LINEAR VOLTAGE REGULATOR COMPATIBLE WITH BIPOLAR AND MOSFET PASS DEVICES AND ASSOCIATED METHODS | United States | 6005303 | 21-Dec-1999 | Granted |
| DEVICE CONTAINING SAMPLE PREPARATION SITES FOR TRANSMISSION ELECTRON MICROSCOPIC ANALYSIS AND PROCESSES OF FORMATION AND USE | United States | 6140652 | 31-Oct-2000 | Granted |
| BRUSHLESS MULTIPASS SILICON WAFER CLEANING PROCESS FOR POST CHEMICAL MECHANICAL POLISHING USING IMMERSION | United States | 6526995 | 04-Mar-2003 | Granted |
| METHOD FOR MAKING A DIFFUSED BACK-SIDE LAYER ON A BONDED-WAFER WITH A THICK BOND OXIDE | United States | 6362075 | 26-Mar-2002 | Granted |

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|---|---------------------|---------------------------------|--|---------------|
| METHOD FOR MAKING A DIFFUSED BACK-SIDE LAYER ON A BONDED-WAFER WITH A THICK BOND OXIDE | United States | 7605052 | 20-Oct-2009 | Granted |
| BONDED SUBSTRATE FOR AN INTEGRATED CIRCUIT CONTAINING A PLANAR INTRINSIC GETTERING ZONE (as amended) | United States | 6255195 | 03-Jul-2001 | Granted |
| USE OF BARRIER REFRACTIVE OR ANTI-REFLECTIVE LAYER TO IMPROVED LASER TRIM CHARACTERISTICS OF THIN FILM RESISTORS | United States | 6259151 | 10-Jul-2001 | Granted |
| ACCESSING MAIN ATX OUTPUTS WITHOUT MONITORING ALL OUTPUTS | United States | 6882942 | 19-Apr-2005 | Granted |
| METHOD OF FORMING RESISTIVE CONTACTS ON INTEGRATED CIRCUITS WITH MOBILITY SPOILING IONS INCLUDING HIGH RESISTIVE CONTACTS AND LOW RESISTIVITY SILICIDE CONTACTS | United States | 6403472 | 11-Jun-2002 | Granted |
| LINE CIRCUIT APPARATUS FOR SUPPLYING POWER TO A TELEPHONE SET IN TELECOMMUNICATION SYSTEMS | United States | 6137189 | 24-Oct-2000 | Granted |
| METHOD OF MANUFACTURING A PLATED ELECTRONIC TERMINATION | United States | 7174626 | 13-Feb-2007 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | United States | 6242784 | 05-Jun-2001 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | United States | 6534347 | 18-Mar-2003 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | United States | 6759719 | 06-Jul-2004 | Granted |
| EDGE TERMINATION FOR SILICON POWER DEVICES | United States | 7166866 | 23-Jan-2007 | Granted |
| LOW TEMPERATURE COEFFICIENT RESISTOR (TCRL) | United States | 6351021 | 26-Feb-2002 | Granted |
| LOW TEMPERATURE COEFFICIENT RESISTOR (TCRL) | United States | 6798024 | 28-Sep-2004 | Granted |
| LOW TEMPERATURE COEFFICIENT RESISTOR (TCRL) | United States | 6812108 | 02-Nov-2004 | Granted |
| CURRENT MODE DC/DC CONVERTER WITH CONTROLLED OUTPUT IMPEDANCE | United States | RE38780 | 23-Aug-2005 | Granted |
| CURRENT MODE DC/DC CONVERTER | United States | RE38906 | 06-Dec- | Granted |

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| WITH CONTROLLED OUTPUT IMPEDANCE | | | 2005 | |
| BACKWARDS DRIVABLE MOS OUTPUT DRIVER | United States | 6351158 | 26-Feb- 2002 | Granted |
| BACKWARDS DRIVABLE MOS OUTPUT DRIVER | United States | 6362665 | 26-Mar- 2002 | Granted |
| METHODS TO CONTROL THE DROOP WHEN POWERING DUAL MODE PROCESSORS AND ASSOCIATED CIRCUITS | United States | 6680604 | 20-Jan-2004 | Granted |
| METHODS TO CONTROL THE DROOP WHEN POWERING DUAL MODE PROCESSORS AND ASSOCIATED CIRCUITS | United States | 6919715 | 19-Jul-2005 | Granted |
| BREAKDOWN IMPROVEMENT METHOD AND STRUCTURE FOR LATERAL EXTENSION MOS DEVICE | United States | 6614088 | 02-Sep- 2003 | Granted |
| PRECISION, LOW-POWER CURRENT- SENSE TRANSMISSION CHANNEL FOR SUBSCRIBER LINE INTERFACE CIRCUIT, PROGRAMMABLE WITH SINGLE ENDED IMPEDANCES AND CAPABLE OF EXHIBITING A VOLTAGE SENSE RESPONSE | United States | 6873703 | 29-Mar- 2005 | Granted |
| MECHANISM FOR PREVENTING CLIPPING OF PULSE METERING SIGNALS IN TELEPHONE LINE CARD CHANNELS | United States | 6829353 | 07-Dec- 2004 | Granted |
| MECHANISM FOR MEASURING RESISTANCE OF TELEPHONE SUBSCRIBER LINE AND GENERATING MEASUREMENT AS PULSE WIDTH OF PERIODIC WAVEFORM | United States | 6504927 | 07-Jan-2003 | Granted |
| MECHANISM FOR GENERATING PRECISION USER-PROGRAMMABLE PARAMETERS IN ANALOG INTEGRATED CIRCUIT | United States | 6407621 | 18-Jun- 2002 | Granted |
| PRECISION, LOW-POWER TRANSIMPEDANCE CIRCUIT WITH DIFFERENTIAL CURRENT SENSE INPUTS AND SINGLE ENDED VOLTAGE OUTPUT | United States | 6292033 | 18-Sep- 2001 | Granted |
| MECHANISM FOR MINIMIZING UNDESIRABLE EFFECTS OF PARASITIC COMPONENTS IN INTEGRATED | United States | 6396331 | 28-May- 2002 | Granted |

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| CIRCUITS | | | | |
| TRANSCONDUCTANCE AMPLIFIER CIRCUIT | United States | 6411163 | 25-Jun- 2002 | Granted |
| CURRENT MIRROR-EMBEDDED LOW- PASS FILTER FOR SUBSCRIBER LINE INTERFACE CIRCUIT APPLICATIONS | United States | 6545540 | 08-Apr- 2003 | Granted |
| CONTROLLED SWITCHING MECHANISM FOR ACCOMPLISHING SOFT POLARITY REVERSAL, RING-TRIP FILTERING, AND LINE VOLTAGE MEASUREMENTS IN A SUBSCRIBER LINE INTERFACE CIRCUIT USING COMMON CAPACITOR | United States | 6862352 | 01-Mar- 2005 | Granted |
| TRANSISTOR BASE CURRENT ERROR CORRECTION SCHEME FOR LOW OVERHEAD VOLTAGE APPLICATIONS | United States | 6344776 | 05-Feb- 2002 | Granted |
| BIASING ARRANGEMENT FOR OPTIMIZING DC FEED CHARACTERISTICS FOR SUBSCRIBER LINE INTERFACE CIRCUIT | United States | 6829354 | 07-Dec- 2004 | Granted |
| OSCILLATOR HAVING REDUCED SENSITIVITY TO SUPPLY VOLTAGE CHANGES | United States | 6552622 | 22-Apr- 2003 | Granted |
| CASCADABLE, HIGH EFFICIENCY CHARGE PUMP CIRCUIT AND RELATED METHODS | United States | 6249446 | 19-Jun- 2001 | Granted |
| DC TO DC CONVERTER METHOD AND CIRCUITRY | United States | 6433525 | 13-Aug- 2002 | Granted |
| DC TO DC CONVERTER METHOD AND CIRCUITRY | United States | 6621256 | 16-Sep- 2003 | Granted |
| MATCHED IMPEDANCE BONDING TECHNIQUE IN HIGH-SPEED INTEGRATED CIRCUITS | United States | 6646343 | 11-Nov- 2003 | Granted |
| N-WAY CIRCULAR PHASE INTERPOLATOR FOR GENERATING A SIGNAL HAVING ARBITRARY PHASE | United States | 6329859 | 11-Dec- 2001 | Granted |
| HIGH SPEED DIFFERENTIAL SIGNAL DETECTION | United States | 6727732 | 27-Apr- 2004 | Granted |
| PHASED-LOCKED LOOP WITH ANALOG PHASE ROTATOR | United States | 6931089 | 16-Aug- 2005 | Granted |
| HIGH-SPEED BIT-PATTERN DETECTOR | United States | 6792061 | 21-Aug- 2000 | Granted |
| FLOATING GATE ANALOG VOLTAGE LEVEL SHIFT CIRCUIT AND METHOD | United States | 7432744 | 07-Oct- 2008 | Granted |

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| FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | | | | |
| BREAKDOWN DIODE STRUCTURE | United States | 5448100 | 05-Sep- 1995 | Granted |
| PROGRAMMABLE CHIP ENABLE LOGIC FUNCTION | United States | 5303181 | 12-Apr- 1994 | Granted |
| BIAS CURRENT MODULATION FOR DIFFERENTIALLY COUPLED TRANSISTOR CIRCUIT | United States | 5214329 | 25-May- 1993 | Granted |
| METHOD OF MAKING SILICON MESFET FOR DIELECTRICALLY ISOLATED INTEGRATED CIRCUITS | United States | 5014108 | 07-May- 1991 | Granted |
| METHOD OF MAKING SILICON MESFET FOR DIELECTRICALLY ISOLATED INTEGRATED CIRCUITS | United States | 5306650 | 26-Apr- 1994 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | United States | 5266135 | 30-Nov- 1993 | Granted |
| WAFER BONDING USING TRAPPED OXIDIZING VAPOR | United States | 5334273 | 02-Aug- 1994 | Granted |
| PLURAL BIT RECORDING MULTIPLIER | United States | 5262976 | 16-Nov- 1993 | Granted |
| RESOURCE ACCESS SECURITY SYSTEM FOR CONTROLLING ACCESS TO RESOURCES OF A DATA PROCESSING SYSTEM | United States | 5469556 | 21-Nov- 1995 | Granted |
| HIGH VOLTAGE PROTECTION USING SCRS | United States | 5359211 | 25-Oct- 1994 | Granted |
| HIGH VOLTAGE PROTECTION USING SCRS | United States | 5670799 | 23-Sep- 1997 | Granted |
| SELF-ALIGNED CHANNEL STOP FOR TRENCH-ISOLATED ISLAND | United States | 5248894 | 28-Sep- 1993 | Granted |
| SELF-ALIGNED CHANNEL STOP FOR TRENCH-ISOLATED ISLAND | United States | 5436189 | 25-Jul-1995 | Granted |
| TRENCH CONDUCTOR AND CROSSUNDER ARCHITECTURE | United States | 5057895 | 15-Oct- 1991 | Granted |
| TRENCH CONDUCTOR AND CROSSUNDER ARCHITECTURE | United States | 5283461 | 01-Feb- 1994 | Granted |
| DSP ADDRESS SEQUENCER | United States | 5265225 | 23-Nov- 1993 | Granted |
| THIN, DIELECTRICALLY ISOLATED ISLAND RESIDENT TRANSISTOR STRUCTURE HAVING LOW COLLECTOR RESISTANCE | United States | 5327006 | 05-Jul-1994 | Granted |

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| BAND-GAP REFERENCE | United States | 5081410 | 14-Jan-1992 | Granted |
| LOW OFFSET UNITY GAIN BUFFER AMPLIFIER | United States | 5218321 | 08-Jun- 1993 | Granted |
| SEMICONDUCTOR STRUCTURE WITHIN DI ISLANDS HAVING BOTTOM PROJECTION FOR CONTROLLING DEVICE CHARACTERISTICS | United States | 5306944 | 26-Apr- 1994 | Granted |
| VOLTAGE DIVIDER AND USE AS BIAS NETWORK FOR STACKED TRANSISTORS | United States | 5233289 | 03-Aug- 1993 | Granted |
| VOLTAGE DIVIDER AND USE AS BIAS NETWORK FOR STACKED TRANSISTORS | United States | 5493207 | 20-Feb- 1996 | Granted |
| CURRENT MIRROR CIRCUIT WITH CASCODED BIPOLAR TRANSISTORS. | United States | 5248932 | 28-Sep- 1993 | Granted |
| METHOD AND APPARATUS FOR TESTING LEAD BONDS AND DETECTING FAILURE | United States | 5085084 | 04-Feb- 1992 | Granted |
| PROCESS FOR FORMING TWIN WELL CMOS INTEGRATED CIRCUITS | United States | 5429958 | 04-Jul-1995 | Granted |
| SOI WAFER WITH SIGE | United States | 5218213 | 08-Jun- 1993 | Granted |
| SOI WAFER WITH SIGE | United States | 5240876 | 31-Aug- 1993 | Granted |
| FAST TURN-OFF THYRISTOR STRUCTURE | United States | 5086242 | 04-Feb- 1992 | Granted |
| BURIED ZENER DIODE HAVING AUXILIARY ZENER JUNCTION ACCESS PATH | United States | 5241213 | 31-Aug- 1993 | Granted |
| RESISTOR STRUCTURE AND METHOD OF FABRICATION | United States | 5200733 | 06-Apr- 1993 | Granted |
| IMPROVED GRADED COLLECTOR FOR INDUCTIVE LOADS | United States | 5311054 | 10-May- 1994 | Granted |
| IMPROVED GRADED COLLECTOR FOR INDUCTIVE LOADS | United States | 5397714 | 14-Mar- 1995 | Granted |
| PUNCH THROUGH DIODES AND APPLICATIONS | United States | 5929503 | 27-Jul-1999 | Granted |
| PUNCH THROUGH DIODES AND APPLICATIONS | United States | 5929502 | 27-Jul-1999 | Granted |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | United States | 5117282 | 26-May- 1992 | Granted |
| STACKED CONFIGURATION FOR INTEGRATED CIRCUITS DEVICES | United States | 5228192 | 20-Jul-1993 | Granted |
| NONCANONIC FULLY SYSTOLIC LMS ADAPTIVE ARCHITECTURE | United States | 5450339 | 12-Sep- 1995 | Granted |
| FOLD AND DECIMATE FILTER | United States | 5258939 | 02-Nov- | Granted |

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| ARCHITECTURE | | | 1993 | |
| METHOD OF LASER TRIMMING | United States | 5096850 | 17-Mar-1992 | Granted |
| METHOD OF LASER TRIMMING | United States | 5235205 | 10-Aug-1993 | Granted |
| DECIMATING FILTER | United States | 5206821 | 27-Apr-1993 | Granted |
| DECIMATING FILTER | United States | 5341335 | 23-Aug-1994 | Granted |
| SEMICONDUCTOR ACCELEROMETER AND METHOD OF ITS MANUFACTURE | United States | 5429993 | 04-Jul-1995 | Granted |
| SEMICONDUCTOR ACCELEROMETER AND METHOD OF ITS MANUFACTURE | United States | 5656512 | 12-Aug-1997 | Granted |
| QUADRATURE FILTER WITH REAL CONVERSION | United States | 5515402 | 07-May-1996 | Granted |
| TELEPHONE SUBSCRIBER LINE CIRCUIT, COMPONENTS AND METHODS | United States | 5745563 | 28-Apr-1998 | Granted |
| POWER DRIVER CIRCUIT | United States | 5504449 | 02-Apr-1996 | Granted |
| STATIC ELECTRICITY DISPERSANT | United States | 5289336 | 22-Feb-1994 | Granted |
| BIASING OF ISLAND-SURROUNDING MATERIAL TO SUPPRESS REDUCTION OF BREAKDOWN VOLTAGE DUE TO FIELD PLATE ACTING ON BURIED LAYER/ISLAND JUNCTION BETWEEN HIGH AND LOW IMPURITY CONCENTRATION REGIONS | United States | 5744851 | 28-Apr-1998 | Granted |
| BIASING OF ISLAND-SURROUNDING MATERIAL TO SUPPRESS REDUCTION OF BREAKDOWN VOLTAGE DUE TO FIELD PLATE ACTING ON BURIED LAYER/ISLAND JUNCTION BETWEEN HIGH AND LOW IMPURITY CONCENTRATION REGIONS | United States | 6184565 | 06-Feb-2001 | Granted |
| METHOD AND DEVICE IN WHICH BOTTOMING A WELL IN A DIELECTRICALLY ISOLATED ISLAND IS ASSURED | United States | 5270569 | 14-Dec-1993 | Granted |
| METHOD AND DEVICE IN WHICH BOTTOMING A WELL IN A DIELECTRICALLY ISOLATED ISLAND IS ASSURED | United States | 5438221 | 01-Aug-1995 | Granted |
| METHOD AND DEVICE IN WHICH | United States | 5602054 | 11-Feb- | Granted |

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| BOTTOMING A WELL IN A DIELECTRICALLY ISOLATED ISLAND IS ASSURED | | | 1997 | |
| PRINT BAND CLEANER | United States | 5220868 | 22-Jun-1993 | Granted |
| NEGATIVE BIASING OF ISOLATION TRENCH FILL TO ATTRACT MOBILE POSITIVE IONS AWAY FROM BIPOLAR DEVICE REGIONS | United States | 6051474 | 18-Apr-2000 | Granted |
| BONDED WAFER PROCESSING | United States | 5780311 | 14-Jul-1998 | Granted |
| BONDED WAFER PROCESSING | United States | 5801084 | 01-Sep-1998 | Granted |
| SYMMETRIC, HIGH SPEED, VOLTAGE SWITCHING CIRCUIT POSSESSING REVERSE VOLTAGE APPLICATION IMMUNITY | United States | 5302859 | 12-Apr-1994 | Granted |
| DIFFERENTIAL VOLTAGE FOLLOWER | United States | 5382916 | 17-Jan-1995 | Granted |
| DIFFERENTIAL VOLTAGE FOLLOWER | United States | 5471131 | 28-Nov-1995 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 5369309 | 29-Nov-1994 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 5631599 | 20-May-1997 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 5659261 | 19-Aug-1997 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 5682111 | 28-Oct-1997 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 5994755 | 30-Nov-1999 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD OF FABRICATION | United States | 6329260 | 11-Dec-2001 | Granted |
| ANALOG-TO-DIGITAL CONVERTER | United States | 5481129 | 02-Jan-1996 | Granted |
| BICMOS DEVICES | United States | 5851864 | 22-Dec-1998 | Granted |
| BICMOS DEVICES | United States | 5856695 | 05-Jan-1999 | Granted |
| HI SPEED BIPOLAR DIGITAL LOGIC GATE ARCHITECTURE | United States | 5229661 | 20-Jul-1993 | Granted |
| SILICON ON DIAMOND CIRCUIT STRUCTURE | United States | 5561303 | 01-Oct-1996 | Granted |
| METHOD OF FORMING ISLAND WITH POLYSILICON-FILLED TRENCH ISOLATION | United States | 5217919 | 08-Jun-1993 | Granted |
| PRECISION VOLTAGE REFERENCE CIRCUIT | United States | 5300877 | 05-Apr-1994 | Granted |

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|---|---------------|-------------------------|-------------------------------|---------|
| REDUCED SEMICONDUCTOR SIZE PACKAGE | United States | 5434357 | 18-Jul-1995 | Granted |
| SELECTIVE RECRYSTALLIZATION TO REDUCE P-CHANNEL TRANSISTOR LEAKAGE IN SILICON-ON-SAPPHIRE CMOS RADIATION HARDENED IC's. | United States | 5298434 | 29-Mar-1994 | Granted |
| SELECTIVE RECRYSTALLIZATION TO REDUCE P-CHANNEL TRANSISTOR LEAKAGE IN SILICON-ON-SAPPHIRE CMOS RADIATION HARDENED IC's. | United States | 5391903 | 21-Feb-1995 | Granted |
| SINE/COSINE GENERATOR AND METHOD | United States | 5276633 | 04-Jan-1994 | Granted |
| SINE/COSINE GENERATOR AND METHOD | United States | RE36388 | 09-Nov-1999 | Granted |
| DIGITAL DOWN CONVERTER AND METHOD | United States | 5493581 | 20-Feb-1996 | Granted |
| DIGITAL DOWN CONVERTER AND METHOD | United States | 5570392 | 29-Oct-1996 | Granted |
| DIGITAL DOWN CONVERTER AND METHOD | United States | 5617344 | 01-Apr-1997 | Granted |
| DIGITAL DOWN CONVERTER AND METHOD | United States | 5633815 | 27-May-1997 | Granted |
| DIGITAL DOWN CONVERTER AND METHOD | United States | 5757794 | 26-May-1998 | Granted |
| FORMATION OF DUAL POLARITY SOURCE/DRAIN EXTENSIONS IN LATERAL COMPLEMENTARY CHANNEL MOS ARCHITECTURES | United States | 5338960 | 16-Aug-1994 | Granted |
| INTEGRATION OF HIGH VOLTAGE LATERAL CMOS DEVICES IN LOW VOLTAGE MOS ARCHITECTURE USING CMOS COMPATIBLE PROCESS STEPS | United States | 5322804 | 21-Jun-1994 | Granted |
| INTEGRATION OF HIGH VOLTAGE LATERAL CMOS DEVICES IN LOW VOLTAGE MOS ARCHITECTURE USING CMOS COMPATIBLE PROCESS STEPS | United States | 5541435 | 30-Jul-1996 | Granted |
| INTEGRATION OF HIGH VOLTAGE LATERAL CMOS DEVICES IN LOW VOLTAGE MOS ARCHITECTURE USING CMOS COMPATIBLE PROCESS STEPS | United States | 5622878 | 22-Apr-1997 | Granted |
| INTEGRATION OF HIGH VOLTAGE LATERAL CMOS DEVICES IN LOW VOLTAGE MOS ARCHITECTURE USING CMOS COMPATIBLE PROCESS STEPS | United States | 5650658 | 22-Jul-1997 | Granted |

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|---|---------------------|---------------------------------|--|---------------|
| A DIGITAL DECIMATING FILTER WITH VIRTUAL REGISTER SPACE AND VARIABLE DECIMATION RATES | United States | 5455782 | 03-Oct-1995 | Granted |
| SOI CMOS DEVICE HAVING DIFFERENTIALLY DOPED BODY EXTENSION FOR PROVIDING IMPROVED BACKSIDE LEAKAGE CHANNEL STOP | United States | 5293052 | 08-Mar-1994 | Granted |
| SEMICONDUCTOR ROM DEVICE AND METHOD | United States | 5440506 | 08-Aug-1995 | Granted |
| SEMICONDUCTOR ROM DEVICE AND METHOD | United States | 5544095 | 06-Aug-1996 | Granted |
| SEMICONDUCTOR ROM DEVICE AND METHOD | United States | 5563834 | 08-Oct-1996 | Granted |
| SEMICONDUCTOR ROM DEVICE AND METHOD | United States | 5586072 | 17-Dec-1996 | Granted |
| SEMICONDUCTOR ROM DEVICE AND METHOD | United States | 5650971 | 22-Jul-1997 | Granted |
| REDUCTION OF BIPOLAR GAIN AND IMPROVEMENT IN SNAP BACK SUSTAINING VOLTAGE IN SOI FIELD EFFECT TRANSISTOR | United States | 5315144 | 24-May-1994 | Granted |
| STRESS RELIEF TECHNIQUE OF REMOVING OXIDE FROM SURFACE OF TRENCH-PATTERNED SEMICONDUCTOR-ON-INSULATOR STRUCTURE | United States | 5270265 | 14-Dec-1993 | Granted |
| HALF BAND FILTER AND METHOD | United States | 5548542 | 20-Aug-1996 | Granted |
| HALF BAND FILTER AND METHOD | United States | 5574671 | 12-Nov-1996 | Granted |
| REDUCED TEMPERATURE SUPPRESSION OF VOLATILIZATION OF PHOTOEXCITED HALOGEN REACT PRODUCTS FROM SILICON WAFER | United States | 5352327 | 04-Oct-1994 | Granted |
| DECOUPLING TOOL MECHANISM FOR ELECTRICAL CONNECTORS | United States | 5312262 | 17-May-1994 | Granted |
| SEU-IMMUNE LATCH FOR GATE ARRAY STANDARD CELL AND OTHER ASIC APPLICATIONS | United States | 5311070 | 10-May-1994 | Granted |
| METHOD FOR FORMING RECESSED OXIDE ISOLATION CONTAINING DEEP AND SHALLOW TRENCHES | United States | 5382541 | 17-Jan-1995 | Granted |
| METHOD FOR FORMING RECESSED | United States | 5504033 | 02-Apr- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| OXIDE ISOLATION CONTAINING DEEP AND SHALLOW TRENCHES | | | 1996 | |
| GAS PHASE CHEMICAL REDUCTION OF METALLIC BRANDING LAYER OF ELECTRONIC CIRCUIT PACKAGE FOR DEPOSITION OF BRANDING INK | United States | 5279850 | 18-Jan-1994 | Granted |
| BONDED WAFER PROCESSING | United States | 5362667 | 08-Nov- 1994 | Granted |
| BONDED WAFER PROCESSING | United States | 5517047 | 14-May- 1996 | Granted |
| BONDED WAFER PROCESSING | United States | 5728624 | 17-Mar- 1998 | Granted |
| CURING OF A TUNGSTEN FILAMENT IN AN ION IMPLANTER | United States | 5370568 | 06-Dec- 1994 | Granted |
| ELECTROSTATIC DISCHARGE PROTECTION | United States | 5416351 | 16-May- 1995 | Granted |
| SILICON GLASS-BONDED WAFERS | United States | 5729038 | 17-Mar- 1998 | Granted |
| SILICON GLASS-BONDED WAFERS | United States | 5994204 | 30-Nov- 1999 | Granted |
| BONDED WAFER PROCESSING WITH METAL SILICIDATION | United States | 5387555 | 07-Feb- 1995 | Granted |
| BONDED WAFER PROCESSING WITH METAL SILICIDATION | United States | 5569620 | 29-Oct- 1996 | Granted |
| BONDED WAFER PROCESSING WITH METAL SILICIDATION | United States | 6909146 | 21-Jun- 2005 | Granted |
| BONDED WAFER PROCESSING WITH OXIDATIVE BONDING | United States | 5849627 | 15-Dec- 1998 | Granted |
| TRENCH ISOLATION STRESS RELIEF | United States | 5448102 | 05-Sep- 1995 | Granted |
| TRENCH ISOLATION STRESS RELIEF | United States | 5683075 | 04-Nov- 1997 | Granted |
| BONDED WAFER PROCESS INCORPORATING DIAMOND INSULATOR | United States | 5272104 | 21-Dec- 1993 | Granted |
| BONDED WAFER PROCESS INCORPORATING DIAMOND INSULATOR | United States | 5650639 | 22-Jul-1997 | Granted |
| CURRENT DRIVER HAVING VOLTAGE TRANSITION FAILURE-BASED SHORT CIRCUIT PROTECTION CIRCUIT | United States | 5428492 | 27-Jun- 1995 | Granted |
| RATE CHANGE FILTER AND METHOD | United States | 5717617 | 10-Feb- 1998 | Granted |
| DIE SEPARATION METHOD FOR | United States | 5552345 | 03-Sep- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| SILICON ON DIAMOND CIRCUIT STRUCTURES | | | 1996 | |
| INTEGRATED CIRCUIT WITH IMPROVED REVERSE BIAS BREAKDOWN | United States | 5373183 | 13-Dec- 1994 | Granted |
| SEMICONDUCTOR DEVICE WITH INCREASED MAXIMUM TERMINAL VOLTAGE | United States | 5665634 | 09-Sep- 1997 | Granted |
| SEMICONDUCTOR DEVICE WITH INCREASED MAXIMUM TERMINAL VOLTAGE | United States | 6008512 | 28-Dec- 1999 | Granted |
| LATE PROCESS METHOD AND APPARATUS FOR TRENCH ISOLATION | United States | 5872044 | 16-Feb- 1999 | Granted |
| LATE PROCESS METHOD AND APPARATUS FOR TRENCH ISOLATION | United States | 5920108 | 06-Jul-1999 | Granted |
| ANALOG-TO-DIGITAL CONVERTER AND METHOD | United States | 5345236 | 06-Sep- 1994 | Granted |
| METHOD OF MAKING INTEGRATED CIRCUIT STRUCTURE WITH NARROW LINE WIDTHS | United States | 5639688 | 17-Jun- 1997 | Granted |
| METHOD OF MAKING INTEGRATED CIRCUIT STRUCTURE WITH NARROW LINE WIDTHS | United States | 5773891 | 30-Jun- 1998 | Granted |
| SUBMICRON BONDED SOI BY TRENCH PLANARIZATION | United States | 5585661 | 17-Dec- 1996 | Granted |
| FAST CHARGING MOS CAPACITOR STRUCTURE FOR HIGH MAGNITUDE VOLTAGE OF EITHER POSITIVE OR NEGATIVE POLARITY | United States | 5341009 | 23-Aug- 1994 | Granted |
| DIAMOND INSULATOR DEVICES AND METHOD OF FABRICATION | United States | 5683939 | 04-Nov- 1997 | Granted |
| CIRCUIT AND METHOD FOR EXTENDING THE SAFE OPERATING AREA OF A BJT | United States | 5357089 | 18-Oct- 1994 | Granted |
| METHOD OF MANUFACTURE OF MULTI-CELL INTEGRATED CIRCUIT ARCHITECTURE | United States | 5561607 | 01-Oct- 1996 | Granted |
| HIGH SPEED COMPARATOR | United States | 5541538 | 30-Jul-1996 | Granted |
| METHODS FOR FORMING A TRANSISTOR HAVING AN EMITTER WITH ENHANCED EFFICIENCY | United States | 5395774 | 07-Mar- 1995 | Granted |
| MAGNETIC BOATS | United States | 5669599 | 23-Sep- 1997 | Granted |
| METHOD FOR INTERACTIVELY | United States | 5581475 | 03-Dec- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| TAILORING TOPOGRAPHY OF INTEGRATED CIRCUIT LAYOUT IN ACCORDANCE WITH ELECTROMIGRATION MODEL-BASED MINIMUM WIDTH METAL AND CONTACT/VIA RULES | | | 1996 | |
| GRAPHICAL DISPLAY DISCRIMINANT FACTOR INDICATOR FOR ANOMALY IDENTIFICATION IN SEMICONDUCTOR MANUFACTURE BATCH PROCESS | United States | 5450326 | 12-Sep- 1995 | Granted |
| FILL & ETCHBACK PROCESS USING DUAL PHOTORESIST SACRIFICIAL LAYER & TWO-STEP ETCHING PROCESS FOR PLANARIZING OXIDE-FILLED SHALLOW TRENCH STRUCTURE | United States | 5516625 | 14-May- 1996 | Granted |
| ESD PROTECTION USING SCR CLAMPING | United States | 5574618 | 12-Nov- 1996 | Granted |
| LOW VOLTAGE RF AMPLIFIER AND MIXER WITH SINGLE BIAS BLOCK AND METHOD | United States | 5809410 | 15-Sep- 1998 | Granted |
| LOW VOLTAGE RF AMPLIFIER AND MIXER WITH SINGLE BIAS BLOCK AND METHOD | United States | 6018270 | 25-Jan-2000 | Granted |
| METHOD FOR PROVIDING A SILICON AND DIAMOND SUBSTRATE HAVING A CARBON TO SILICON TRANSITION LAYER AND APPARATUS THEREOF | United States | 5526768 | 18-Jun- 1996 | Granted |
| METHOD FOR PROVIDING A SILICON AND DIAMOND SUBSTRATE HAVING A CARBON TO SILICON TRANSITION LAYER AND APPARATUS THEREOF | United States | 5782975 | 21-Jul-1998 | Granted |
| RESISTANCE-MEASUREMENT BASED ARRANGEMENT FOR MONITORING INTEGRITY OF TRAVEL PATH GROUND LINK IN ELECTRONIC COMPONENT HANDLING APPARATUS | United States | 5576695 | 19-Nov- 1996 | Granted |
| TRENCH RESISTOR ARCHITECTURE | United States | 5466963 | 14-Nov- 1995 | Granted |
| STRUCTURE AND TECHNIQUE FOR TAILORING EFFECTIVE RESISTIVITY OF A SIPOS LAYER BY PATTERNING AND CONTROL OF DOPANT INTRODUCTION | United States | 5637908 | 10-Jun- 1997 | Granted |
| VOLTAGE INDEPENDENT SYMMETRICAL CURRENT SOURCE | United States | 5446368 | 29-Aug- 1995 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| WITH CROSS-COUPLED TRANSISTORS | | | | |
| METHOD OF FABRICATION OF SURFACE MOUNTABLE INTEGRATED CIRCUITS | United States | 5618752 | 08-Apr- 1997 | Granted |
| PLASMA CLEANING METHOD FOR IMPROVED INK BRAND PERMANENCY ON IC PACKAGES WITH METALLIC PARTS | United States | 5451263 | 19-Sep- 1995 | Granted |
| PLASMA CLEANING METHOD FOR IMPROVED INK BRAND PERMANENCY ON IC PACKAGES WITH METALLIC PARTS | United States | 5882423 | 16-Mar- 1999 | Granted |
| PROGRAMMABLE ELEMENT IN BARRIER METAL DEVICE AND METHOD | United States | 5648678 | 15-Jul-1997 | Granted |
| DIGITAL COMPONENT TESTING APPARATUS AND METHOD | United States | 5644309 | 01-Jul-1997 | Granted |
| JFET STRUCTURES FOR SEMICONDUCTOR DEVICES WITH COMPLEMENTARY BIPOLAR TRANSISTORS & METHOD | United States | 5652153 | 29-Jul-1997 | Granted |
| CMOS INTEGRATED CIRCUIT ARCHITECTURE INCORPORATION DEEP IMPLANTED EMITTER REGION TO FORM AUXILIARY BIPOLAR TRANSISTOR | United States | 6350640 | 26-Feb- 2002 | Granted |
| SCR-INDUCTOR TRANSIENT CLAMP | United States | 5546038 | 13-Aug- 1996 | Granted |
| PROCESS FOR MANUFACTURING A MULTI-PORT ADHESIVE DISPENSING TOOL | United States | 5423889 | 13-Jun- 1995 | Granted |
| DIGITAL BASEBAND TO IF CONVERSION IN CELLULAR BASE STATIONS | United States | 5519732 | 21-May- 1996 | Granted |
| METHOD OF MAKING CONTACT REGIONS FOR NARROW TRENCHES IN SEMICONDUCTOR DEVICES | United States | 5622890 | 22-Apr- 1997 | Granted |
| METHOD OF MAKING CONTACT REGIONS FOR NARROW TRENCHES IN SEMICONDUCTOR DEVICES | United States | 5962908 | 05-Oct- 1999 | Granted |
| VIDEO SCALING METHOD AND DEVICE | United States | 5574572 | 12-Nov- 1996 | Granted |
| HIGH SPEED A/D CONVERTER AND SLEW CONTROLLED PULSE DETECTOR | United States | 5808489 | 15-Sep- 1998 | Granted |
| MULTISTANDARD DECODER FOR | United States | 5621478 | 15-Apr- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------|-------------------------|-------------------------------|---------|
| VIDEO SIGNALS AND VIDEO SIGNAL DECODING METHOD | | | 1997 | |
| SAMPLE RATE CONVERTER AND SAMPLE RATE CONVERSION METHOD | United States | 5619270 | 08-Apr- 1997 | Granted |
| DIGITAL DECODER AND METHOD FOR DECODING COMPOSITE VIDEO SIGNALS | United States | 5621477 | 15-Apr- 1997 | Granted |
| METHOD OF FORMING P-TYPE ISLANDS OVER P-TYPE BURIED LAYER | United States | 5633180 | 27-May- 1997 | Granted |
| IMPEDANCE SETTING CIRCUIT FOR A SLIC | United States | 5515434 | 07-May- 1996 | Granted |
| CAPACITOR STRUCTURE IN A BONDED WAFER AND METHOD OF FABRICATION | United States | 5841182 | 24-Nov- 1998 | Granted |
| GROUND KEY DETECTOR FOR A SLIC | United States | 5515417 | 07-May- 1996 | Granted |
| CURRENT FOLLOWER WITH ZERO INPUT IMPEDANCE | United States | 5614867 | 25-Mar- 1997 | Granted |
| AN INTEGRATED RINGER RELAY CIRCUIT AND METHOD | United States | 5517565 | 14-May- 1996 | Granted |
| ZERO PHASE ERROR SWITCHED- CAPACITOR PHASE LOCKED LOOP FILTER | United States | 5659269 | 19-Aug- 1997 | Granted |
| TEMPERATURE INSENSITIVE FILTER TUNING NETWORK AND METHOD | United States | 5572161 | 05-Nov- 1996 | Granted |
| METHOD OF FORMING DUMMY ISLAND CAPACITOR | United States | 5602052 | 11-Feb- 1997 | Granted |

Intersil Americas, Inc. – Foreign Registered Patents and Pending Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|---------|
| MULTI-PHASE CONVERTER WITH BALANCED CURRENTS | TW | I232630 | 11-May- 2005 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | CN | 100352154C | 28-Nov- 2007 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | KR | 10-0578908 | 04-May- 2006 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | TW | NI-197515 | 01-Mar- 2004 | Granted |
| ADJUSTABLE INTEGRATED THERMAL | CN | CN100336289 | 05-Sep- | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|-------------------------|-------------------------------|---------|
| COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | | | 2007 | |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | TW | NI-196063 | 11-Feb-2004 | Granted |
| DC-TO-DC CONVERTER WITH FAST OVERRIDE FEEDBACK CONTROL AND ASSOCIATED METHODS | TW | I282916 | 21-Jun-2007 | Granted |
| DC-TO-DC CONVERTER WITH FAST OVERRIDE FEEDBACK CONTROL AND ASSOCIATED METHODS | CN | ZL 03107235 | 03-Jun-2009 | Granted |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | CN | ZL02825006. | 23-Jul-2008 | Granted |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | TW | I232022 | 01-May-2005 | Granted |
| DISCRETE STEP TEMPERATURE COMPENSATED CURRENT SENSING TECHNIQUE FOR DC TO DC | TW | I232021 | 01-May-2005 | Granted |
| EFFICIENT BUCK TOPOLOGY DC-DC POWER STAGE UTILIZING MONOLITHIC N-CHANNEL UPPER FET AND PILOT CURRENT SENSING | TW | I236205 | 11-Jul-2005 | Granted |
| METHOD OF SETTING BI-DIRECTIONAL OFFSET IN A PWM CONTROLLER USING A SINGLE PIN | CN | CN100428614 | 22-Oct-2008 | Granted |
| METHOD OF SETTING BI-DIRECTIONAL OFFSET IN A PWM CONTROLLER USING A SINGLE PIN | TW | I221052 | 11-Sep-2004 | Granted |
| PWM CONTROLLER WITH INTEGRATED PLL | TW | I257542 | 01-Jul-2006 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | KR | 723989 | 25-May-2007 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | CN | 0380105133* | 08-Oct-2008 | Granted |
| LI-ION/LI-POLYMER BATTERY CHARGER CONFIGURED TO BE DC-POWERED FROM MULTIPLE TYPES OF WALL ADAPTERS | TW | I234330 | 11-Jun-2005 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | CN | 100422897C | 01-Oct-2008 | Granted |
| SYNCHRONIZATION OF MULTIPHASE | JP | 3981110 | 06-Jul-2007 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|---------|
| SYNTHETIC RIPPLE VOLTAGE REGULATOR | | | | |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | CN | *0410083437 | 23-Feb- 2007 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | KR | 10-0716125 | 02-May- 2007 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | TW | I269133 | 21-Dec- 2006 | Granted |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | TW | I269134 | 21-Dec- 2006 | Granted |
| MULTIPHASE CONVERTER CONTROLLER USING SINGLE GAIN RESISTOR | TW | I321390 | 01-Mar- 2010 | Granted |
| MULTIPHASE CONVERTER CONTROLLER USING SINGLE GAIN RESISTOR | CN | *0380110117 | 11-Jun- 2008 | Granted |
| PWM-BASED DC-DC CONVERTER WITH ASSURED DEAD TIME CONTROL EXHIBITING NO SHOTT-THROUGH CURRENT AND INDEPENDENT OF TYPE OF FET USED | TW | I229970 | 21-Mar- 2005 | Granted |
| PWM-BASED DC-DC CONVERTER WITH ASSURED DEAD TIME CONTROL EXHIBITING NO SHOTT-THROUGH CURRENT AND INDEPENDENT OF TYPE OF FET USED | CN | 100492829C | 27-May- 2009 | Granted |
| MECHANISM FOR PROVIDING OVER- VOLTAGE PROTECTION DURING POWER UP OF DC-DC CONVERTER | TW | I291281 | 11-Dec- 2007 | Granted |
| LOW POWER, AREA-EFFICIENT CIRCUIT TO PROVIDE CLOCK SYNCHRONIZATION | TW | I294219 | 01-Mar- 2008 | Granted |
| OPTICAL PICK-UP UNITS AND LASER DRIVERS WITH INCREASED FUNCTIONALITY | CN | 4431571 | 25-Dec- 2009 | Granted |
| MULTIPHASE CONVERTER WITH ZERO VOLTAGE SWITCHING | CN | 0510005928. | 17-Jun- 2009 | Granted |
| DC-TO-DC POWER REGULATOR HAVING NON-LINEAR LOAD LINE AND AUTOMATIC LEAKAGE CURRENT OFFSET ADJUSTMENT | TW | I180468 | 01-May- 2007 | Granted |
| DC-TO-DC POWER REGULATOR HAVING NON-LINEAR LOAD LINE AND AUTOMATIC LEAKAGE CURRENT OFFSET ADJUSTMENT | CN | 100437413C | 26-Nov- 2008 | Granted |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | TW | I293186 | 01-Feb- 2008 | Granted |
| ASSYMETRICAL MULTIPHASE DC-DC POWER CONVERTER | CN | CN100382417 | 16-Apr- 2008 | Granted |
| ASSYMETRICAL MULTIPHASE DC-DC POWER CONVERTER | TW | I275234 | 01-Mar- 2007 | Granted |
| MULTIPLEXED HIGH VOLTAGE DC-AC DRIVER | CN | CN100502219 | 17-Jun- 2009 | Granted |
| MULTIPLEXED HIGH VOLTAGE DC-AC DRIVER | KR | 10-619636 | 28-Aug- 2006 | Granted |
| MULTIPLEXED HIGH VOLTAGE DC-AC DRIVER | TW | I275236 | 01-Mar- 2007 | Granted |

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|---|--------------|-------------------------|-------------------------------|---------|
| CASCADABLE CURRENT-MODE REGULATOR | TW | I274975 | 01-Mar-2007 | Granted |
| CASCADABLE CURRENT-MODE REGULATOR | CN | 100438293C | 26-Nov-2008 | Granted |
| CLOCKED, CASCADING, CURRENT-MODE REGULATOR WITH HIGH NOISE IMMUNITY AND ARBITRARY PHASE COUNT | CN | 100397280C | 25-Jun-2008 | Granted |
| CLOCKED, CASCADING, CURRENT-MODE REGULATOR WITH HIGH NOISE IMMUNITY AND ARBITRARY PHASE COUNT | TW | I281771 | 21-May-2007 | Granted |
| TRACKING SOFT START CIRCUIT FOR GENERATING A PLURALITY OF SOFT START VOLTAGES WHERE ALL SOFT START VOLTAGES ARE PREVENTED UNTIL ALL HAVE BEEN BROUGHT TO THE SAME PRESCRIBED STATE OF OPERATION | TW | I244822 | 01-Dec-2005 | Granted |
| TRACKING SOFT START CIRCUIT FOR GENERATING A PLURALITY OF SOFT START VOLTAGES WHERE ALL SOFT START VOLTAGES ARE PREVENTED UNTIL ALL HAVE BEEN BROUGHT TO THE SAME PRESCRIBED STATE OF OPERATION | CN | CN100468284 | 11-Mar-2009 | Granted |
| SYSTEM AND METHOD OF DETECTING PHASE BODY DIODE USING A COMPARATOR IN A SYNCHRONOUS RECTIFIED FET DRIVER | TW | I289005 | 21-Oct-2007 | Granted |
| SYSTEM AND METHOD OF DETECTING PHASE BODY DIODE USING A COMPARATOR IN A SYNCHRONOUS RECTIFIED FET DRIVER | CN | 0410102013 | 23-Jul-2008 | Granted |
| PRECISION MARGINING CIRCUITRY | TW | I275918 | 11-Mar-2007 | Granted |
| PRECISION MARGINING CIRCUITRY | CN | 10097455.6 | 11-Jun-2008 | Granted |
| LINEAR PREDICTIVE CONTROLLER | CN | ZL100565085 | 19-Aug-2009 | Granted |
| STARTUP CIRCUIT FOR CONVERTER WITH PRE-BIASED LOAD | CN | CN100466432 | 04-Mar-2009 | Granted |
| DROOP AMPLIFIER CIRCUIT | KR | 881537 | 23-Jan-2009 | Granted |
| DROOP AMPLIFIER CIRCUIT | JP | 4366422 | 28-Aug-2009 | Granted |
| DROOP AMPLIFIER CIRCUIT | CN | 0580007693 | 16-Jul-2008 | Granted |
| CONTROLLER AND DRIVER ARCHITECTURE FOR DOUBLE- ENDED CIRCUITRY FOR POWERING COLD CATHODE FLUORESCENT LAMPS | KR | 773176 | 29-Oct-2007 | Granted |
| CONTROLLER AND DRIVER ARCHITECTURE | TW | I280536 | 01-May- | Granted |

| Title | Jurisdiction | Reg. No/ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|------------------------|-------------------------------|---------|
| FOR DOUBLE- ENDED CIRCUITRY FOR POWERING COLD CATHODE FLUORESCENT LAMPS | | | 2007 | |
| APPARATUS AND METHOD FOR SLIDING-MODE CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | CN | 10084513 | 25-Mar-2009 | Granted |
| APPARATUS AND METHOD FOR FIXED-FREQUENCY CONTROL IN A SWITCHING POWER SUPPLY | CN | 0510084514. | 01-Jul-2005 | Granted |
| APPARATUS AND METHOD FOR TRANSIENT CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | CN | 10084515 | 29-Jul-2009 | Granted |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | TW | I306359 | 11-Feb-2009 | Granted |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | CN | CN100454745 | 21-Jan-2009 | Granted |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | KR | 712448 | 23-Apr-2007 | Granted |
| CURRENT AVERAGING CIRCUIT FOR A PWM POWER CONVERTER | CN | CN100432883 | 12-Nov-2008 | Granted |
| CURRENT AVERAGING CIRCUIT FOR A PWM POWER CONVERTER | TW | I257200 | 21-Jun-2006 | Granted |
| FLOATING GATE ANALOG VOLTAGE LEVEL SHIFT CIRCUIT AND METHOD FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | CN | ZL10092242 | 11-Mar-2009 | Granted |
| DC-AC CONVERTER HAVING PHASE-MODULATED, DOUBLE-ENDED, HALF-BRIDGE TOPOLOGY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | KR | 73965 | 25-May-2007 | Granted |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | CN | 0610055035 | 05-Aug-2009 | Granted |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | KR | 10-0863638 | 08-Oct-2008 | Granted |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | TW | I301701 | 01-Oct-2008 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|-------------------------|-------------------------------|-----------|
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | CN | CN100466434 | 04-Mar-2009 | Granted |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | CN | 100499330C. | 10-Jun-2009 | Granted |
| ACTIVE DROOP CURRENT SHARING | DE | 20200900985 | 24-Dec-2009 | Granted |
| ADDING AND DROPPING PHASES IN CURRENT SHARING | DE | 009855.9 | 24-Dec-2009 | Granted |
| INTELLIGENT MANAGEMENT OF CURRENT SHARING GROUP | DE | 22009009854 | 24-Dec-2009 | Granted |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | EP | 02-757255.1 | 19-Feb-2004 | Pending |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | JP | 03-522248 | 05-Mar-2004 | Published |
| THERMAL COMPENSATED CURRENT SENSING OF INTRINSIC POWER CONVERTER ELEMENTS | CN | 10180340.7 | 17-Oct-2007 | Published |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | WO | US02/26355 | 20-Aug-2002 | Published |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | JP | 03-522247 | 17-Feb-2004 | Published |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | EP | 02759402 | 19-Feb-2004 | Pending |
| ADJUSTABLE INTEGRATED THERMAL COMPENSATION METHOD FOR ELECTRONIC CIRCUITS UTILIZING TEMPERATURE-DEPENDENT SENSING ELEMENTS | KR | 04-7002460 | 20-Feb-2004 | Pending |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | DE | 10297493.4 | 28-May-2004 | Pending |
| PROGRAMMABLE CURRENT-SENSING CIRCUIT PROVIDING CONTINUOUS TEMPERATURE COMPENSATION FOR DC-DC CONVERTER | CN | 200810125920 | 05-Jun-2008 | Pending |
| METHOD OF SETTING BI-DIRECTIONAL | WO | 03/35893 | 12-Nov- | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|-------------------------|-------------------------------|-----------|
| OFFSET IN A PWM CONTROLLER USING A SINGLE PIN | | | 2003 | |
| PWM CONTROLLER WITH INTEGRATED PLL | KR | 05-7005825 | 04-Apr-2005 | Pending |
| PWM CONTROLLER WITH INTEGRATED PLL | JP | 2004-543104 | 04-Apr-2005 | Published |
| PWM CONTROLLER WITH INTEGRATED PLL | CN | 80103120.4 | 09-May-2005 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | KR | 2004-75133 | 20-Sep-2004 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | EP | 04 023 197.9 | 29-Sep-2004 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | JP | 2004-285516 | 29-Sep-2004 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | EP | 04023198.7 | 29-Sep-2004 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | DE | 04 023 197.9 | 29-Sep-2004 | Pending |
| SYNCHRONIZATION OF MULTIPHASE SYNTHETIC RIPPLE VOLTAGE REGULATOR | DE | 04023198.7 | 29-Sep-2004 | Pending |
| MECHANISM FOR PROVIDING OVER-VOLTAGE PROTECTION DURING POWER UP OF DC-DC CONVERTER | CN | 03-80107760.2 | 12-Dec-2003 | Published |
| LOW POWER, AREA-EFFICIENT CIRCUIT TO PROVIDE CLOCK SYNCHRONIZATION | WO | 04/03965 | 11-Feb-2004 | Published |
| OPTICAL PICK-UP UNITS AND LASER DRIVERS WITH INCREASED FUNCTIONALITY | JP | 2006-507089 | 11-Mar-2004 | Pending |
| OPTICAL PICK-UP UNITS AND LASER DRIVERS WITH INCREASED FUNCTIONALITY | TW | 93106463 | 11-Mar-2004 | Pending |
| MULTIPHASE CONVERTER WITH ZERO VOLTAGE SWITCHING | TW | 93135949 | 23-Nov-2004 | Published |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | WO | 04/23307 | 20-Jul-2004 | Pending |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | KR | 06-7003594 | 20-Jul-2004 | Pending |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | EP | 04778684.3 | 20-Jul-2004 | Pending |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | CN | 200410095946 | 20-Aug-2004 | Published |
| ACTIVE AREA BONDING COMPATIBLE HIGH CURRENT STRUCTURES | JP | 06-523849 | 21-Feb-2006 | Pending |
| MULTIPLE CHANNEL PROGRAMMABLE GAMMA CORRECTION VOLTAGE GENERATOR | TW | 93123071 | 02-Aug-2004 | Pending |
| MULTIPLEXED HIGH VOLTAGE DC-AC DRIVER | JP | 330976 | 15-Nov-2004 | Pending |
| STARTUP CIRCUIT FOR A DC-DC CONVERTER | TW | 93127999 | 16-Sep-2004 | Pending |

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| TRACKING SOFT START CIRCUIT FOR GENERATING A PLURALITY OF SOFT START VOLTAGES WHERE ALL SOFT START VOLTAGES ARE PREVENTED UNTIL ALL HAVE BEEN BROUGHT TO THE SAME PRESCRIBED STATE OF OPERATION | WO | 04/33576 | 12-Oct-2004 | Published |
| TRACKING SOFT START CIRCUIT FOR GENERATING A PLURALITY OF SOFT START VOLTAGES WHERE ALL SOFT START VOLTAGES ARE PREVENTED UNTIL ALL HAVE BEEN BROUGHT TO THE SAME PRESCRIBED STATE OF OPERATION | EP | 04794828.6 | 23-May-2006 | Pending |
| MULTIPHASE DC-DC CONVERTER WITH REDUCED RIPPLE | TW | 93128000 | 16-Sep-2004 | Pending |
| TRANSCONDUCTANCE AMPLIFIER WITH MULTI-EMITTER STRUCTURE FOR CURRENT BALANCE IN MULTI-PHASE SYNTHETIC RIPPLE REGULATOR | TW | 93128538 | 21-Sep-2004 | Pending |
| LINEAR PREDICTIVE CONTROLLER | TW | 93129806 | 01-Oct-2004 | Published |
| STARTUP CIRCUIT FOR CONVERTER WITH PRE-BIASED LOAD | TW | 94101584 | 19-Jan-2005 | Pending |
| DROOP AMPLIFIER CIRCUIT | TW | 93128539 | 21-Sep-2004 | Pending |
| DROOP AMPLIFIER CIRCUIT | WO | 05/07561 | 28-Mar-2005 | Pending |
| ENABLE AND DISABLE OF DIODE-EMULATION IN A DC/DC CONVERTER | TW | 93128540 | 21-Sep-2004 | Pending |
| CONTROLLER AND DRIVER ARCHITECTURE FOR DOUBLE- ENDED CIRCUITRY FOR POWERING COLD CATHODE FLUORESCENT LAMPS | CN | 10070419.5 | 28-Apr-2005 | Published |
| APPARATUS AND METHOD FOR SLIDING-MODE CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | TW | 94118562 | 06-Jun-2005 | Pending |
| APPARATUS AND METHOD FOR FIXED-FREQUENCY CONTROL IN A SWITCHING POWER SUPPLY | TW | 94118563 | 06-Jun-2005 | Pending |
| APPARATUS AND METHOD FOR TRANSIENT CONTROL IN A MULTIPHASE SWITCHING POWER SUPPLY | TW | 94116880 | 24-May-2005 | Published |
| PHASE SHIFT MODULATION-BASED CONTROL OF AMPLITUDE OF AC VOLTAGE OUTPUT PRODUCED BY DOUBLE-ENDED DC-AC CONVERTER CIRCUITRY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | CN | 10190324 | 19-Jul-2005 | Pending |
| FLOATING GATE ANALOG VOLTAGE LEVEL | TW | 94122154 | 30-Jun- | Pending |

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| SHIFT CIRCUIT AND METHOD FOR PRODUCING A VOLTAGE REFERENCE THAT OPERATES ON A LOW SUPPLY VOLTAGE | | | 2005 | |
| IMPROVED ESD STRUCTURE | CN | 200510125002 | 08-Nov-2005 | Published |
| DC-AC CONVERTER HAVING PHASE-MODULATED, DOUBLE-ENDED, HALF-BRIDGE TOPOLOGY FOR POWERING HIGH VOLTAGE LOAD SUCH AS COLD CATHODE FLUORESCENT LAMP | TW | 95113351 | 14-Apr-2006 | Published |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | TW | 95148892 | 13-Feb-2006 | Pending |
| REFERENCE VOLTAGE GENERATOR FOR USE IN DISPLAY APPLICATIONS | TW | 95104701 | 13-Feb-2006 | Pending |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | EP | 06100499.0 | 18-Jan-2006 | Pending |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | FR | 06100499.0 | 18-Jan-2006 | Pending |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | IT | 06100499.0 | 18-Jan-2006 | Pending |
| PWM CONTROLLER WITH DUAL-EDGE MODULATION USING DUAL RAMPS | DE | 06100499.0 | 18-Jan-2006 | Pending |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | TW | 95130207 | 17-Aug-2006 | Published |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | WO | 034224 | 01-Sep-2006 | Pending |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | JP | 100071526 | 28-Feb-2008 | Published |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | KR | 2008-7004866 | 28-Feb-2008 | Pending |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | CN | 200680032231 | 28-Feb-2008 | Pending |
| BIPOLAR STRUCTURES HAVING IMPROVED BVCEO/Rcs TRADE OFF MADE WITH DEPLETABLE COLLECTOR COLUMNS | EP | 06802800.0 | 29-Feb-2008 | Pending |
| GATE DRIVER TOPOLOGY FOR MAXIMUM LOAD EFFICIENCY | TW | 96112429 | 10-Apr-2007 | Pending |
| GATE DRIVER TOPOLOGY FOR MAXIMUM LOAD EFFICIENCY | CN | 10129038.9 | 29-Jun-2007 | Published |
| CIRCUIT FOR MULTIPLEXING DIGITAL AND ANALOG INFORMATION VIA SINGLE PIN OF DRIVER FOR SWITCHED MOSFETS OF DC-DC CONVERTER | TW | 95135725 | 27-Sep-2006 | Published |

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| CIRCUIT FOR MULTIPLEXING DIGITAL AND ANALOG INFORMATION VIA SINGLE PIN OF DRIVER FOR SWITCHED MOSFETS OF DC-DC CONVERTER | CN | 200610171905 | 28-Sep-2006 | Published |
| COMPENSATION OFFSET ADJUSTMENT SCHEME FOR FAST REFERENCE VOLTAGE TRANSITIONING | TW | 95139127 | 24-Oct-2006 | Pending |
| COMPENSATION OFFSET ADJUSTMENT SCHEME FOR FAST REFERENCE VOLTAGE TRANSITIONING | CN | 10064228.2 | 16-Nov-2006 | Published |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | TW | 95139125 | 24-Oct-2006 | Pending |
| BIDIRECTIONAL COMMUNICATION PROTOCOL BETWEEN A SERIALIZER AND A DESERIALIZER | WO | 07/075912 | 14-Aug-2007 | Pending |
| BIDIRECTIONAL COMMUNICATION PROTOCOL BETWEEN A SERIALIZER AND A DESERIALIZER | TW | 96129944 | 14-Aug-2007 | Pending |
| BIDIRECTIONAL COMMUNICATION PROTOCOL BETWEEN A SERIALIZER AND A DESERIALIZER | EP | 07840936.4 | 14-Aug-2007 | Pending |
| BIDIRECTIONAL COMMUNICATION PROTOCOL BETWEEN A SERIALIZER AND A DESERIALIZER | CN | 200780030295 | 13-Mar-2009 | Pending |
| A MULTIPLE TIME PROGRAMMABLE (MTP) PMOS FLOATING-GATE-BASED NON-VOLATILE ELEMENT FOR A GENERAL-PURPOSE CMOS TECHNOLOGY WITH THICK GATE OXIDE | TW | 96113629 | 18-Apr-2007 | Published |
| A MULTIPLE TIME PROGRAMMABLE (MTP) PMOS FLOATING-GATE-BASED NON-VOLATILE ELEMENT FOR A GENERAL-PURPOSE CMOS TECHNOLOGY WITH THICK GATE OXIDE | CN | 200710101379 | 20-Apr-2007 | Pending |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE CONTROL DISPLAYS | JP | 2009-530507 | 05-Sep-2007 | Pending |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE CONTROL DISPLAYS | WO | US07/77595 | 05-Sep-2007 | Pending |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE CONTROL DISPLAYS | TW | 96133386 | 07-Sep-2007 | Pending |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE | CN | 200780039763 | 20-Apr-2009 | Pending |

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| CONTROL DISPLAYS | | | | |
| REDUCING POWER CONSUMPTION ASSOCIATED WITH HIGH BIAS CURRENTS IN SYSTEMS THAT DRIVE OR OTHERWISE CONTROL DISPLAYS | KR | 2009-7008101 | 30-Apr- 2009 | Pending |
| DC-DC CONVERTERS HAVING IMPROVED CURRENT SENSING AND RELATED METHODS | TW | 95136835 | 04-Oct- 2006 | Pending |
| DC-DC CONVERTERS HAVING IMPROVED CURRENT SENSING AND RELATED METHODS | CN | 200610136584 . | 23-Oct- 2006 | Pending |
| VOLTAGE REGULATOR HAVING CURRENT CANCELING COMPENSATION | TW | 95137301 | 11-Oct- 2006 | Pending |
| VOLTAGE REGULATOR HAVING CURRENT CANCELING COMPENSATION | CN | 200610136583 . | 23-Oct- 2006 | Pending |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | TW | 96129941 | 14-Aug- 2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | CN | 200780031191 | 20-Aug- 2007 | Pending |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | FR | EP07811445 | 20-Aug- 2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | DE | EP07811445 | 20-Aug- 2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | IT | EP07811445 | 20-Aug- 2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL PURPOSE CMOS TECHNOLOGY | EP | EP07811445 | 20-Aug- 2007 | Published |
| METHOD AND APPARATUS FOR SHIELDING TUNNELING CIRCUIT AND FLOATING GATE FOR INTEGRATION OF A FLOATING GATE VOLTAGE REFERENCE IN A GENERAL | JP | 2009-525600 | 20-Feb- 2009 | Pending |

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|--|--------------|-------------------------|-------------------------------|-----------|
| PURPOSE CMOS TECHNOLOGY | | | | |
| USE OF DIFFERENTIAL PAIR AS SINGLE- ENDED DATA PATHS TO TRANSPORT LOW SPEED DATA | WO | 07/079715 | 27-Sep- 2007 | Published |
| USE OF DIFFERENTIAL PAIR AS SINGLE- ENDED DATA PATHS TO TRANSPORT LOW SPEED DATA | TW | 96136528 | 29-Sep- 2007 | Pending |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | WO | 2007/086528 | 05-Dec- 2007 | Pending |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | TW | 96146710 | 07-Dec- 2007 | Pending |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | CN | 200780045707 | 11-Jun- 2009 | Pending |
| LIGHT SENSORS WITH INFRARED SUPPRESSION | DE | 112007003037 | 12-Jun- 2009 | Pending |
| CRADLE CHARGER CONTROLLER WITH BELOW GROUND LEVEL BIASING | TW | 97103888 | 01-Feb- 2008 | Published |
| CRADLE CHARGER CONTROLLER WITH BELOW GROUND LEVEL BIASING | CN | 20080011863 | 01-Feb- 2008 | Published |
| CRADLE CHARGER CONTROLLER WITH BELOW GROUND LEVEL BIASING | WO | 08/052746 | 01-Feb- 2008 | Published |
| AMBIENT LIGHT SENSOR USING CONVENTIONAL CMOS IMAGE SENSOR PROCESS | WO | 08/051450 | 18-Jan- 2008 | Pending |
| AMBIENT LIGHT SENSOR USING CONVENTIONAL CMOS IMAGE SENSOR PROCESS | CN | 200880004357 .X | 18-Jan- 2008 | Pending |
| AMBIENT LIGHT SENSOR USING CONVENTIONAL CMOS IMAGE SENSOR PROCESS | TW | 97102319 | 22-Jan- 2008 | Pending |
| AMBIENT LIGHT SENSOR USING CONVENTIONAL CMOS IMAGE SENSOR PROCESS | DE | 112008000380 | 10-Aug- 2009 | Pending |
| MULTI-MODULE CURRENT SHARING SCHEME | TW | 971044155 | 04-Feb- 2008 | Pending |
| MULTI-MODULE CURRENT SHARING SCHEME | CN | 10088348.5 | 28-Mar- 2008 | Pending |
| IMPROVED BURIED ISOLATION LAYER | WO | 08/063939 | 16-May- 2008 | Pending |
| IMPROVED BURIED ISOLATION LAYER | TW | 97119329 | 26-May- 2008 | Pending |
| IMPROVED BURIED ISOLATION LAYER | EP | 087557385 | 27-Nov- 2009 | Pending |
| IMPROVED BURIED ISOLATION LAYER | KR | 20097027527 | 30-Dec- 2009 | Pending |
| INTEGRATED CIRCUIT WITH A SUBSURFACE DIODE | TW | 97113566 | 27-Mar- 2008 | Published |
| INTEGRATED CIRCUIT WITH A SUBSURFACE | WO | 08/58560 | 28-Mar- | Pending |

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| DIODE | | | 2008 | |
| INTEGRATED CIRCUIT WITH A SUBSURFACE DIODE | EP | 08732969.4 | 27-Nov-2009 | Pending |
| INTEGRATED CIRCUIT WITH A SUBSURFACE DIODE | CN | 200880020977 | 18-Dec-2009 | Pending |
| INTEGRATED CIRCUIT WITH A SUBSURFACE DIODE | KR | 09-7027435 | 30-Dec-2009 | Pending |
| PULSE-ADDING SCHEME FOR SMOOTH PHASE DROPPING AT LIGHT LOAD CONDITION | TW | 97107812 | 06-Mar-2008 | Published |
| PULSE-ADDING SCHEME FOR SMOOTH PHASE DROPPING AT LIGHT LOAD CONDITION | EP | 08155604.5 | 02-May-2008 | Pending |
| PULSE-ADDING SCHEME FOR SMOOTH PHASE DROPPING AT LIGHT LOAD CONDITION | CN | 10095275.2 | 04-May-2008 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE | WO | US08/63251 | 09-May-2008 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE | KR | 2009-7023127 | 09-Nov-2009 | Pending |
| RF-COUPLED DIGITAL ISOLATOR | WO | 08/057909 | 21-Mar-2008 | Pending |
| RF-COUPLED DIGITAL ISOLATOR | CN | 20080015420. X | 21-Mar-2008 | Pending |
| RF-COUPLED DIGITAL ISOLATOR | TW | 97112605 | 08-Apr-2008 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | TW | 97113566 | 15-Apr-2008 | Published |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | WO | US08/63251 | 09-Jun-2008 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | KR | 7023127 | 05-Nov-2009 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | EP | 08795848.4 | 01-Dec-2009 | Pending |
| JUNCTION BARRIER SCHOTTKY DIODE WITH DUAL SILICIDES AND METHOD OF MANUFACTURE | CN | 200880017609 | 25-Dec-2009 | Pending |
| OVER-VOLTAGE PROTECTED BATTERY CHARGER WITH BYPASS | TW | 97115190 | 25-Apr-2008 | Published |
| OVER-VOLTAGE PROTECTED BATTERY CHARGER WITH BYPASS | CN | 200810127911 | 19-Jun-2008 | Pending |
| OVER-VOLTAGE PROTECTED BATTERY CHARGER WITH BYPASS | KR | 0057720 | 19-Jun-2008 | Pending |
| CLOSED LOOP, STEADY STATE FREQUENCY | TW | 97119653 | 28-May- | Pending |

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| CONTROL OF VARIABLE FREQUENCY SWITCHER ARCHITECTURES | | | 2008 | |
| CLOSED LOOP, STEADY STATE FREQUENCY CONTROL OF VARIABLE FREQUENCY SWITCHER ARCHITECTURES | EP | 08159616 | 03-Jul-2008 | Pending |
| CLOSED LOOP, STEADY STATE FREQUENCY CONTROL OF VARIABLE FREQUENCY SWITCHER ARCHITECTURES | CN | 10214775 | 07-Jul-2008 | Pending |
| LOAD CURRENT COMPENSATION IN SYNCHRONOUS POWER CONVERTERS | WO | 080/070919 | 08-Sep- 2008 | Published |
| DEAD-TIME TRANSITION ADJUSTMENTS FOR SYNCHRONOUS POWER CONVERTERS | WO | 08/70887 | 23-Jul-2008 | Published |
| DEAD-TIME TRANSITION ADJUSTMENTS FOR SYNCHRONOUS POWER CONVERTERS | TW | 97127901 | 23-Jul-2008 | Pending |
| DEAD-TIME TRANSITION ADJUSTMENTS FOR SYNCHRONOUS POWER CONVERTERS | EP | 08782260.7 | 20-Jan- 2010 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | JP | 2009-540523 | 31-Jul-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | EP | 8794905.3 | 31-Jul-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | WO | 08/009237 | 31-Jul-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | TW | 97129191 | 01-Aug- 2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | KR | 20097008838 | 29-Apr- 2009 | Pending |
| VOLTAGE CONVERTER WITH COMBINED BUCK CONVERTER AND CAPACITIVE VOLTAGE DIVIDER | CN | | 20-Jan- 2010 | Pending |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | CN | | 02-Apr- 2008 | Pending |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | WO | 08/79143 | 08-Oct- 2008 | Published |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | TW | 97138663 | 08-Oct- 2008 | Published |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | KR | 2010-7007551 | 07-Apr- 2010 | Pending |
| TUNABLE VOLTAGE ISOLATION GROUND TO GROUND ESD CLAMP | EP | 08837261.0 | 07-Apr- 2010 | Pending |
| SWITCHING REGULATOR WITH BALANCED CONTROL CONFIGURATION TO ELIMINATE COMPENSATION | TW | 097146161 | 28-Nov- 2008 | Pending |
| SWITCHING REGULATOR WITH BALANCED | WO | 08/85071 | 28-Nov- | Pending |

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| CONTROL CONFIGURATION TO ELIMINATE COMPENSATION | | | 2008 | |
| MODULATOR WITH LINEAR PERIOD STRETCHING CAPABILITY | CN | 200810175056 | 24-Oct- 2008 | Pending |
| SYSTEM AND METHOD FOR IMPROVING INDUCTOR CURRENT SENSING ACCURACY OF A DC/DC VOLTAGE REGULATOR | CN | tbd | 05-Dec- 2008 | Pending |
| SYSTEM AND METHOD FOR IMPROVING INDUCTOR CURRENT SENSING ACCURACY OF A DC/DC VOLTAGE REGULATOR | WO | 08/08566 | 05-Dec- 2008 | Pending |
| SYSTEM AND METHOD FOR IMPROVING INDUCTOR CURRENT SENSING ACCURACY OF A DC/DC VOLTAGE REGULATOR | TW | 97147234 | 05-Dec- 2008 | Pending |
| SYSTEM AND METHOD FOR IMPROVING INDUCTOR CURRENT SENSING ACCURACY OF A DC/DC VOLTAGE REGULATOR | KR | 10-7007619 | 08-Apr- 2010 | Pending |
| PROXIMITY SENSORS AND METHODS FOR SENSING PROXIMITY | WO | 08/80985 | 23-Oct- 2008 | Pending |
| PROXIMITY SENSORS AND METHODS FOR SENSING PROXIMITY | TW | 97141138 | 27-Oct- 2008 | Pending |
| WAVEFORM CURRENT MONITOR USING RDSON OF LOW-SIDE BRIDGE FET | WO | 09/031480 | 21-Jan- 2009 | Published |
| WAVEFORM CURRENT MONITOR USING RDSON OF LOW-SIDE BRIDGE FET | TW | 98104292 | 11-Feb- 2009 | Published |
| HIGH-SIDE SENSING OF ZERO INDUCTOR CURRENT FOR STEP DOWN DC-DC CONVERTER | WO | US09/35821 | 03-Mar- 2009 | Published |
| HIGH-SIDE SENSING OF ZERO INDUCTOR CURRENT FOR STEP DOWN DC-DC CONVERTER | TW | 98 106796 | 03-Mar- 2009 | Published |
| HYBRID LASER DIODE DRIVERS | WO | 09/046381 | 05-Jun- 2009 | Pending |
| HYBRID LASER DIODE DRIVERS | TW | 98118686 | 05-Jun- 2009 | Pending |
| DYNAMIC HEADROOM CONTROL FOR LED DRIVER | KR | 2009-64209 | 14-Jul-2009 | Pending |
| DYNAMIC HEADROOM CONTROL FOR LED DRIVER | TW | 98123717 | 14-Jul-2009 | Published |
| DYNAMIC HEADROOM CONTROL FOR LED DRIVER | CN | 10160457.8 | 15-Jul-2009 | Pending |
| CHOPPER STABILIZED AMPLIFIER | TW | 09811520 | 04-Jun- 2009 | Pending |
| CHOPPER STABILIZED AMPLIFIER | CN | 200880004357 .X | 09-Jun- 2009 | Pending |
| CHOPPER STABILIZED AMPLIFIER | DE | tbd | 10-Jun- 2009 | Pending |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK | WO | 08/009247 | 31-Jul-2008 | Pending |

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| CONVERTER AND BATTERY CHARGER | | | | |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK CONVERTER AND BATTERY CHARGER | TW | 97129190 | 01-Aug-2008 | Pending |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK CONVERTER AND BATTERY CHARGER | KR | 7008518 | 24-Apr-2009 | Pending |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK CONVERTER AND BATTERY CHARGER | JP | 540524 | 20-May-2009 | Pending |
| VOLTAGE CONVERTER WITH COMBINED CAPACITIVE VOLTAGE DIVIDER, BUCK CONVERTER AND BATTERY CHARGER | EP | 08/794915.2 | 02-Sep-2009 | Pending |
| ADVANCED PHASE NUMBER CONTROL FOR IMPROVED EFFICIENCY AND FAST TRANSIENT RESPONSE IN MULTIPHASE CONVERTER APPLICATIONS | CN | 00910173330. X | 14-Jul-2009 | Pending |
| ADVANCED PHASE NUMBER CONTROL FOR IMPROVED EFFICIENCY AND FAST TRANSIENT RESPONSE IN MULTIPHASE CONVERTER APPLICATIONS | TW | 98123720 | 14-Jul-2009 | Published |
| BUCK CONTROLLER INTEGRATED WITH BOOST CONTROL AND DRIVER | TW | 98124220 | 17-Jul-2009 | Published |
| BUCK CONTROLLER INTEGRATED WITH BOOST CONTROL AND DRIVER | DE | 102009026218 | 21-Jul-2009 | Published |
| BUCK CONTROLLER INTEGRATED WITH BOOST CONTROL AND DRIVER | CN | 10161165.6 | 29-Jul-2009 | Published |
| SYSTEM AND METHOD FOR REDUCING VOLTAGE OVERSHOOT DURING LOAD RELEASE WITHIN A BUCK REGULATOR | TW | 98124806 | 23-Jul-2009 | Published |
| SYSTEM AND METHOD FOR REDUCING VOLTAGE OVERSHOOT DURING LOAD RELEASE WITHIN A BUCK REGULATOR | CN | 200910173378 | 23-Jul-2009 | Pending |
| IMPROVED DUAL RAMP MODULATOR | TW | 98125171 | 27-Jul-2009 | Pending |
| IMPROVED DUAL RAMP MODULATOR | CN | 0910159281.4 | 05-Aug-2009 | Published |
| PWM CLOCK GENERATION SYSTEM AND METHOD TO IMPROVE TRANSIENT RESPONSE OF A VOLTAGE REGULATOR | TW | 98125169 | 27-Jul-2009 | Published |
| PWM CLOCK GENERATION SYSTEM AND METHOD TO IMPROVE TRANSIENT RESPONSE OF A VOLTAGE REGULATOR | CN | 10159283.3 | 05-Aug-2009 | Pending |
| CONSTANT LOOP GAIN CONTROL FOR BUCK REGULATOR/MODULE | TW | 98128339 | 24-Aug-2009 | Pending |
| CONSTANT LOOP GAIN CONTROL FOR BUCK REGULATOR/MODULE | CN | 200910178748 | 23-Sep-2009 | Pending |
| PHASE SWAPPER SCHEME FOR IMPROVED PHASE CURRENT BALANCE IN PHASE | TW | 98 12499 | 24-Jul-2009 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|--------------|-------------------------|-------------------------------|-----------|
| DOUBLER | | | | |
| PHASE SWAPPER SCHEME FOR IMPROVED PHASE CURRENT BALANCE IN PHASE DOUBLER | DE | 2009043918.8 | 01-Sep- 2009 | Pending |
| PHASE SWAPPER SCHEME FOR IMPROVED PHASE CURRENT BALANCE IN PHASE DOUBLER | CN | 200910205000 | 29-Sep- 2009 | Pending |
| CALIBRATION OF TWO-CHANNEL TIME- INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS | CN | 200910266822 | 28-Dec- 2009 | Pending |
| SYSTEM AND METHOD FOR PHASE DROPPING AND ADDING | DE | 102010016136 | 25-Mar- 2010 | Pending |
| SYSTEM AND METHOD FOR PHASE DROPPING AND ADDING | CN | tbd | 25-Mar- 2010 | Pending |
| SYSTEM AND METHOD FOR PHASE DROPPING AND ADDING | TW | 99108857 | 25-Mar- 2010 | Pending |
| CO-PACKAGING APPROACH FOR POWER CONVERTERS BASED ON PLANAR DEVICES, STRUCTURE AND METHOD | TW | 98143097 | 16-Dec- 2009 | Pending |
| CO-PACKAGING APPROACH FOR POWER CONVERTERS BASED ON PLANAR DEVICES, STRUCTURE AND METHOD | EP | EP09180016.9 | 18-Dec- 2009 | Pending |
| CO-PACKAGING APPROACH FOR POWER CONVERTERS BASED ON PLANAR DEVICES, STRUCTURE AND METHOD | CN | 2009-128590 | 22-Dec- 2009 | Pending |
| CO-PACKAGING APPROACH FOR POWER CONVERTERS BASED ON PLANAR DEVICES, STRUCTURE AND METHOD | KR | 20090128590 | 22-Dec- 2009 | Pending |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | TW | 98125513 | 19-Jul-2009 | Pending |
| ADAPTIVE PWM PULSE POSITION FOR FAST TRANSIENT RESPONSE | CN | 12273441 | 17-Nov- 2009 | Pending |
| IMPROVED N-BIT PIN ADC READER | CN | tbd | 07-Jan- 2010 | Pending |
| IMPROVED N-BIT PIN ADC READER | TW | 99100214 | 07-Jan- 2010 | Pending |
| ACTIVE DROOP CURRENT SHARING | CN | 200910173353 | 20-Jul-2009 | Pending |
| ACTIVE DROOP CURRENT SHARING | TW | 98124396 | 20-Jul-2009 | Published |
| ADDING AND DROPPING PHASES IN CURRENT SHARING | CN | 200910173352 | 20-Jul-2009 | Pending |
| ADDING AND DROPPING PHASES IN CURRENT SHARING | TW | 98124397 | 20-Jul-2009 | Published |
| INTELLIGENT MANAGEMENT OF CURRENT SHARING GROUP | CN | 200910173354 | 20-Jul-2009 | Pending |
| INTELLIGENT MANAGEMENT OF CURRENT SHARING GROUP | TW | 98124398 | 20-Jul-2009 | Published |
| METHOD TO PROPERLY RAMP CURRENT SHARING RAIL | DE | 202009009853 | 20-Jul-2009 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| METHOD TO PROPERLY RAMP CURRENT SHARING RAIL | CN | 200910173351 | 20-Jul-2009 | Pending |
| METHOD TO PROPERLY RAMP CURRENT SHARING RAIL | TW | 098124399 | 20-Jul-2009 | Published |
| STACKED POWER CONVERTER STRUCTURE AND METHOD | WO | US09/064748 | 17-Nov-2009 | Pending |
| SINGLE DIE OUTPUT POWER STAGE USING TRENCH-GATE LOW-SIDE AND LDMOS HIGH-SIDE MOSFETS, STRUCTURE AND METHOD | TW | 98143267 | 17-Dec-2009 | Pending |
| SINGLE DIE OUTPUT POWER STAGE USING TRENCH-GATE LOW-SIDE AND LDMOS HIGH-SIDE MOSFETS, STRUCTURE AND METHOD | EP | 09180025.0 | 18-Dec-2009 | Pending |
| SINGLE DIE OUTPUT POWER STAGE USING TRENCH-GATE LOW-SIDE AND LDMOS HIGH-SIDE MOSFETS, STRUCTURE AND METHOD | CN | tbd | 22-Dec-2009 | Pending |
| SINGLE DIE OUTPUT POWER STAGE USING TRENCH-GATE LOW-SIDE AND LDMOS HIGH-SIDE MOSFETS, STRUCTURE AND METHOD | KR | 2009-128591 | 22-Dec-2009 | Pending |
| A CIRCUIT TO MULTIPLEX A CURRENT LIMITING INPUT TO AN OPEN-DRAIN OUTPUT | TW | 99105927 | 02-Mar-2010 | Pending |
| A CIRCUIT TO MULTIPLEX A CURRENT LIMITING INPUT TO AN OPEN-DRAIN OUTPUT | WO | US2010/02591 1 | 02-Mar-2010 | Pending |
| SOLAR CELL WITH INTEGRATED SWITCH AND CONNECTION METHOD | TW | 99102108 | 26-Jan-2010 | Pending |
| SOLAR CELL WITH INTEGRATED SWITCH AND CONNECTION METHOD | CN | 201010118628 | 28-Jan-2010 | Pending |
| UN-BUFFERED SEGMENTED R-DAC WITH SWITCH CURRENT REDUCTION | EP | 10157599.1 | 26-Feb-2010 | Pending |
| UN-BUFFERED SEGMENTED R-DAC WITH SWITCH CURRENT REDUCTION | CN | tbd | 30-Mar-2010 | Pending |
| UN-BUFFERED SEGMENTED R-DAC WITH SWITCH CURRENT REDUCTION | TW | 99109558 | 30-Mar-2010 | Pending |
| SYSTEM AND METHOD FOR DETERMINING OUTPUT VOLTAGE LEVEL INFORMATION FROM PHASE VOLTAGE FOR SWITCHED MODE REGULATOR CONTROLLERS | TW | 99110976 | 09-Apr-2010 | Pending |
| LOW THERMAL RESISTANCE AND ROBUST CHIP-SCALE-PACKAGE (CSP), STRUCTURE AND METHOD | WO | US10/26820 | 10-Mar-2010 | Pending |
| TRANSIENT SUPPRESSION FOR BOOT REGULATOR | TW | 98123719 | 14-Jul-2009 | Published |
| TRANSIENT SUPPRESSION FOR BOOT | KR | 2009-64210 | 14-Jul-2009 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|---------|
| REGULATOR | | | | |
| TRANSIENT SUPPRESSION FOR BOOT REGULATOR | CN | 10160456.3 | 15-Jul-2009 | Pending |

Elantec Semiconductor, Inc. – U.S. Registered Patents and Patent Applications

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| INPUT BIAS CURRENT COMPENSATION FOR A COMPARATOR | United States | 5128564 | 07-Jul-1992 | Granted |
| SLEW CONTROL IN CURRENT FEEDBACK AMPLIFIERS | United States | 5179355 | 12-Jan-1993 | Granted |
| CURRENT MIRROR WITH ERROR CORRECTION | United States | 5321371 | 14-Jun-1994 | Granted |
| CIRCUIT FOR INTRODUCING HYSTERESIS | United States | 5334883 | 02-Aug-1994 | Granted |
| LEVEL SHIFTER CIRCUIT | United States | 5341047 | 23-Aug-1994 | Granted |
| LOW INPUT RESISTANCE CURRENT-MODE FEEDBACK OPERATIONAL AMPLIFIER INPUT STAGE | United States | 5351012 | 27-Sep-1994 | Granted |
| ANALOG MULTIPLEXER | United States | 5352987 | 04-Oct-1994 | Granted |
| LOW INPUT RESISTANCE AMPLIFIER STAGE | United States | 5352989 | 04-Oct-1994 | Granted |
| COMPLEMENTARY GAIN CONTROL CIRCUIT | United States | 5374898 | 20-Dec-1994 | Granted |
| COMPLEMENTARY ANALOG MULTIPLIER CIRCUITS WITH DIFFERENTIAL GROUND REFERENCED OUTPUTS AND SWITCHING CAPABILITY | United States | 5389840 | 14-Feb-1995 | Granted |
| INPUT STAGE IMPROVEMENTS FOR CURRENT FEEDBACK AMPLIFIERS | United States | 5418495 | 23-May-1995 | Granted |
| VARACTOR COMPENSATION IN AMPLIFIER CIRCUITS | United States | 5420542 | 30-May-1995 | Granted |
| DIFFERENTIAL AMPLIFIER MULTIPLEXER | United States | 5426396 | 20-Jun-1995 | Granted |
| DIFFERENTIAL ANALOG MEMORY CELL AND METHOD FOR ADJUSTING SAME | United States | 5430670 | 04-Jul-1995 | Granted |
| ACTIVE FOLDED CASCODE | United States | 5469104 | 21-Nov-1995 | Granted |
| VOLTAGE CONTROLLED AMPLIFIER WHICH REDUCES DIFFERENTIAL GAIN | United States | 5469106 | 21-Nov-1995 | Granted |
| CLASS AB COMPLEMENTARY OUTPUT STAGE | United States | 5475343 | 12-Dec-1995 | Granted |
| ULTRA HIGH GAIN AMPLIFIER | United States | 5479133 | 26-Dec-1995 | Granted |
| SYNCHRONIZING SIGNAL ACTIVE FILTER AND METHOD | United States | 5528303 | 18-Jun-1996 | Granted |
| AMPLIFIER CIRCUIT WITH DYNAMIC OUTPUT STAGE BIASING | United States | 5568090 | 22-Oct-1996 | Granted |
| CIRCUIT COMPENSATING FOR CAPACITANCE AT INVERTING INPUT OF | United States | 5578967 | 26-Nov-1996 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| CURRENT FEEDBACK AMPLIFIER | | | | |
| ULTRA HIGH GAIN AMPLIFIER | United States | 5614866 | 25-Mar-1997 | Granted |
| SEMICONDUCTOR WAFER HAVING SLICES AND LIMITED SCRIBE AREAS FOR IMPLEMENTING DIE | United States | 5656851 | 12-Aug-1997 | Granted |
| HIGH PRECISION POLISHING TOOL | United States | 5681216 | 28-Oct-1997 | Granted |
| MONOLITHIC POWER CONVERTER WITH A POWER SWITCH AS A CURRENT SENSING ELEMENT | United States | 5723974 | 03-Mar-1998 | Granted |
| A POWER CONTROL CHIP WITH CIRCUITRY THAT ISOLATES SWITCHING ELEMENTS AND BOND WIRES FOR TESTING | United States | 5793126 | 11-Aug-1998 | Granted |
| DIFFERENTIAL AMPLIFIER WITH IMPROVED VOLTAGE GAIN | United States | 5812026 | 22-Sep-1998 | Granted |
| GAS AGITATED LIQUID ETCHER | United States | 5846374 | 08-Dec-1998 | Granted |
| VIDEO SYNC SIGNAL SLICING USING VARIABLE GAIN CONTROL | United States | 5867222 | 02-Feb-1999 | Granted |
| CONSTANT AMPLITUDE VS. FREQUENCY OSCILLATOR | United States | 5874865 | 23-Feb-1999 | Granted |
| REDUCED OUTPUT CAPACITANCE CIRCUIT FOR DRIVING A GROUNDED LOAD IN RESPONSE TO A STEPPED INPUT | United States | 5898334 | 27-Apr-1999 | Granted |
| SILICON ON INSULATOR PROCESS WITH RECOVERY OF A DEVICE LAYER FROM AN ETCH STOP LAYER | United States | 5985728 | 16-Nov-1999 | Granted |
| DIFFERENTIAL AMPLIFIER WITH IMPROVED VOLTAGE GAIN USING OPERATIONAL AMPLIFIERS TO ELEIMINATE DIODE VOLTAGE DROPS | United States | 6031424 | 29-Feb-2000 | Granted |
| METHOD FOR MAKING A CONTACT STRUCTURE FOR A POLYSILICON FILLED TRENCH ISOLATION | United States | 6037239 | 14-Mar-2000 | Granted |
| POLYSILICON FILLED TRENCH ISOLATION STRUCTURE FOR SOI INTEGRATED CIRCUITS | United States | 6096621 | 01-Aug-2000 | Granted |
| METHOD OF FORMING RETROGRADE WELLS IN BONDED WAFERS | United States | 6140205 | 31-Oct-2000 | Granted |
| LOAD CURRENT CONTROL CIRCUITRY FOR POWER SUPPLIES DRIVING A COMMON LOAD FOR PROVIDING A UNIFORM TEMPERATURE DISTRIBUTION | United States | 6204720 | 20-Mar-2001 | Granted |
| CIRCUIT PROVIDING A NEGATIVE RESISTANCE TO OFFSET ERROR VOLTAGE FOR USE WITH A FOLDED CASCODE AMPLIFIER | United States | 6229394 | 08-May-2001 | Granted |
| HIGH PERFORMANCE INTERMEDIATE STAGE CIRCUIT FOR A RAIL-TO-RAIL INPUT/OUTPUT CMOS OPERATIONAL AMPLIFIER | United States | 6300834 | 09-Oct-2001 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|---------------------|---------------------------------|--|---------------|
| HIGH PERFORMANCE INTERMEDIATE STAGE CIRCUIT FOR A RAIL-TO-RAIL INPUT/OUTPUT CMOS OPERATIONAL AMPLIFIER | United States | 6384683 | 07-May-2002 | Granted |
| REDUCED SUBSTRATE CAPACITANCE HIGH PERFORMANCE SOI PROCESS | United States | 6403447 | 11-Jun-2002 | Granted |
| DISTORTION IMPROVEMENT IN AMPLIFIERS | United States | 6448853 | 10-Sep-2002 | Granted |
| A HIGH SPEED, LOW-POWER CMOS CIRCUIT WITH CONSTANT OUTPUT SWING AND VARIABLE TIME DELAY FOR A VOLTAGE CONTROLLED OSCILLATOR | United States | 6501317 | 31-Dec-2002 | Granted |
| CURRENT FEEDBACK AMPLIFIER EXHIBITING REDUCED DISTORTION | United States | 6535064 | 18-Mar-2003 | Granted |
| COMPENSATION METHOD IN A CLASS B AMPLIFIER | United States | 6538514 | 25-Mar-2003 | Granted |
| AN ALTERNATIVE VIDEO SYNC DETECTOR | United States | 6573943 | 03-Jun-2003 | Granted |
| REDUCED SUBSTRATE CAPACITANCE HIGH PERFORMANCE SOI PROCESS | United States | 6617646 | 09-Sep-2003 | Granted |
| A CMOS RELAXATION OSCILLATOR CIRCUIT WITH IMPROVED SPEED AND REDUCED PROCESS/TEMPERATURE VARIATIONS | United States | 6720836 | 13-Apr-2004 | Granted |
| SIMPLIFIED MULTI-OUTPUT DIGITAL TO ANALOG CONVERTER (DAC) FOR A FLAT PANEL DISPLAY | United States | 6781532 | 24-Aug-2004 | Granted |
| METHODS FOR EXTRACTING THE MEAN (COMMON MODE) VOLTAGE OF TWO INPUT SIGNALS | United States | 6867643 | 15-Mar-2005 | Granted |
| COMMON- MODE AND DIFFERENTIAL- MODE COMPENSATION FOR OPERATIONAL AMPLIFIER CIRCUITS | United States | 6867649 | 15-Mar-2005 | Granted |
| ANALOG DEMULTIPLEXING | United States | 6897800 | 24-May-2005 | Granted |
| SIMPLIFIED MULTI-OUTPUT DIGITAL TO ANALOG CONVERTER (DAC) FOR A FLAT PANEL DISPLAY | United States | 6927712 | 09-Aug-2005 | Granted |
| AN ALTERNATIVE VIDEO SYNC DETECTOR | United States | 6977692 | 20-Dec-2005 | Granted |
| CLASS G AMPLIFIERS | United States | 6982600 | 03-Jan-2006 | Granted |
| CURRENT MODE PREAMPLIFIERS | United States | 6995615 | 07-Feb-2006 | Granted |
| NOVEL NOISE CANCELLATION CIRCUIT AND METHODS | United States | 6998905 | 14-Feb-2006 | Granted |
| ANALOG DEMULTIPLEXING | United States | 7002498 | 21-Feb-2006 | Granted |
| INPUT STAGE FOR MULTIPLEXING AND METHODS FOR USING AN INPUT STAGE FOR MULTIPLEXING | United States | 7030679 | 18-Apr-2006 | Granted |
| METHODS AND SYSTEMS FOR DRIVING DISPLAYS INCLUDING CAPACITIVE DISPLAY ELEMENTS | United States | 7034781 | 25-Apr-2006 | Granted |
| METHODS FOR EXTRACTING THE MEAN | United States | 7053698 | 30-May-2006 | Granted |

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|--|---------------------|---------------------------------|--|---------------|
| (COMMON MODE) VOLTAGE OF TWO INPUT SIGNALS | | | | |
| CURRENT OUTPUT STAGE | United States | 7053699 | 30-May-2006 | Granted |
| SYSTEM AND METHODS FOR AUTOMATIC POWER CONTROL OF LASER DIODES | United States | 7061951 | 13-Jun-2006 | Granted |
| BIAS CURRENT CANCELLATION FOR DIFFERENTIAL AMPLIFIERS | United States | 7068106 | 27-Jun-2006 | Granted |
| NOVEL NOISE CANCELLATION CIRCUIT AND METHODS | United States | 7075362 | 11-Jul-2006 | Granted |
| ADJUSTABLE POWER CONTROL FOR LASER DRIVERS AND LASER DIODES | United States | 7106769 | 12-Sep-2006 | Granted |
| BIAS CURRENT CANCELLATION FOR DIFFERENTIAL AMPLIFIERS | United States | 7145391 | 05-Dec-2006 | Granted |
| AN ALTERNATIVE VIDEO SYNC DETECTOR | United States | 7215379 | 08-May-2007 | Granted |
| LASER DRIVERS THAT PROVIDE DOUBLE BUFFERING OF SERIAL TRANSFERS | United States | 7246199 | 17-Jul-2007 | Granted |
| INPUT STAGE FOR MULTIPLEXING AND METHODS FOR USING AN INPUT STAGE FOR MULTIPLEXING | United States | 7250805 | 31-Jul-2007 | Granted |
| LASER DRIVERS THAT PROVIDE DOUBLE BUFFERING OF SERIAL TRANSFERS | United States | 7353333 | 01-Apr-2008 | Granted |
| INPUT STAGE FOR MULTIPLEXING AND METHODS FOR USING AN INPUT STAGE FOR MULTIPLEXING | United States | 7378897 | 27-May-2008 | Granted |
| SYSTEM AND METHODS FOR AUTOMATIC POWER CONTROL OF LASER DIODES | United States | 7382807 | 03-Jun-2008 | Granted |
| AN ALTERNATIVE VIDEO SYNC DETECTOR | United States | 11/737068 | 18-Apr-2007 | Pending |
| LASER DRIVERS THAT PROVIDE DOUBLE BUFFERING OF SERIAL TRANSFERS | United States | 7562187 | 14-Jul-2009 | Granted |

Elantec Semiconductor, Inc. – Foreign Registered Patents and Patent Applications.

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| A HIGH SPEED, LOW-POWER CMOS CIRCUIT WITH CONSTANT OUTPUT SWING AND VARIABLE TIME DELAY FOR A VOLTAGE CONTROLLED OSCILLATOR | CN | ZL02809718 | 31-Aug- 2005 | Granted |
| SIMPLIFIED MULTI-OUTPUT DIGITAL TO ANALOG CONVERTER (DAC) FOR A FLAT PANEL DISPLAY | JP | 4359504 | 14-Aug- 2009 | Granted |
| SIMPLIFIED MULTI-OUTPUT DIGITAL TO ANALOG CONVERTER (DAC) FOR A FLAT PANEL DISPLAY | TW | I267818 | 01-Dec- 2006 | Granted |
| ANALOG DEMULTIPLEXING | KR | 10-0910481 | 27-Jul-2009 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|---|--------------|-------------------------|-------------------------------|-----------|
| ANALOG DEMULTIPLEXING | JP | 4111915 | 18-Apr-2008 | Granted |
| ANALOG DEMULTIPLEXING | TW | NI-193308 | 01-Jan-2004 | Granted |
| LASER DRIVERS THAT PROVIDE DOUBLE BUFFERING OF SERIAL TRANSFERS | TW | 93114741 | 25-May-2004 | Pending |
| PROGRAMMABLE DAMPING FOR LASER DRIVERS | TW | 93107624 | 22-Mar-2004 | Pending |
| ADJUSTABLE POWER CONTROL FOR LASER DRIVERS AND LASER DIODES | TW | 93107625 | 22-Mar-2004 | Pending |
| TWO-WIRE CHIP-TO-CHIP INTERFACE | JP | 2005-120954 | 19-Apr-2005 | Published |
| NOVEL NOISE CANCELLATION CIRCUIT AND METHODS | JP | 2004-163600 | 01-Jun-2004 | Pending |

D2 Audio Corporation – U.S Registered Patents and Patent Applications.

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------|-------------------------|-------------------------------|---------|
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING AN ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | United States | 7649410 | 19-Jan-2010 | Granted |
| SYSTEMS AND METHODS FOR AUTOMATICALLY ADJUSTING CHANNEL TIMING | United States | 7023268 | 04-Apr-2006 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | United States | 7061312 | 13-Jun-2006 | Granted |
| INTEGRATED PULSHI MODE WITH SHUTDOWN | United States | 7078963 | 18-Jul-2006 | Granted |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | United States | 7167112 | 23-Jan-2007 | Granted |
| SYSTEMS AND METHODS FOR LOAD DETECTION AND CORRECTION IN A DIGITAL AMPLIFIER | United States | 7259618 | 21-Aug-2007 | Granted |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | United States | 7286009 | 23-Oct-2007 | Granted |
| SYSTEMS AND METHODS FOR OVER-CURRENT PROTECTION | United States | 7286010 | 23-Oct-2007 | Granted |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY | United States | 7315264 | 01-Jan-2008 | Granted |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | | | | |
| SYSTEMS AND METHODS FOR MINIMIZING DELAY IN A CONTROL PATH | United States | 7362254 | 22-Apr-2008 | Granted |
| SYSTEMS AND METHODS FOR PULSE WIDTH MODULATING ASYMMETRIC SIGNAL LEVELS | United States | 7425853 | 16-Sep-2008 | Granted |
| POWER SUPPLY FEED FORWARD ANALOG INPUT FILTER COMPONENT MISMATCH | United States | 7436255 | 14-Oct-2008 | Granted |
| SYSTEMS AND METHODS FOR MAINTAINING MINIMUM PULSE WIDTH DURING SHUTDOWN | United States | 7436256 | 14-Oct-2008 | Granted |
| OUTPUT STAGE SYNCHRONIZATION | United States | 7436918 | 14-Oct-2008 | Granted |
| SYSTEMS AND METHODS FOR SAMPLE RATE CONVERSION USING MULTIPLE RATE ESTIMATE COUNTERS | United States | 7474722 | 06-Jan-2009 | Granted |
| SYSTEMS AND METHODS FOR CORRECTING ERRORS RESULTING FROM COMPONENT MISMATCH IN A FEEDBACK PATH | United States | 7482865 | 27-Jan-2009 | Granted |
| PWM FEEDBACK/FEEDFORWARD PROTECTION | United States | 7518444 | 14-Apr-2009 | Granted |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | United States | 7576606 | 18-Aug-2009 | Granted |
| MULTI-CHIP PWM SYNCHRONIZATION AND COMMUNICATION | United States | 7584009 | 01-Sep-2009 | Granted |
| CLIP DETECTION IN PWM AMPLIFIER | United States | 7590251 | 15-Sep-2009 | Granted |
| SYSTEMS AND METHODS FOR SAMPLE RATE CONVERSION USING MULTIPLE RATE ESTIMATE COUNTERS | United States | 12/343317 | 23-Dec-2008 | Pending |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | United States | 11/782702 | 25-Jul-2007 | Published |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | United States | 12/542634 | 17-Aug-2009 | Published |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | United States | 10/805594 | 19-Mar-2004 | Pending |
| STREAMING MULTI-CHANNEL AUDIO AS PACKETIZED DATA OR PARALLEL DATA WITH A SEPARATE INPUT FRAME SYNC | United States | 10/805574 | 20-Mar-2004 | Pending |
| SRC WITH MULTIPLE SETS OF FILTER COEFFICIENTS IN MEMORY AND A HIGH ORDER COEFFICIENT INTERPOLATOR | United States | 10/805596 | 19-Mar-2004 | Pending |
| PHASE ALIGNMENT OF AUDIO OUTPUT DATA IN A MULTI-CHANNEL CONFIGURATION | United States | 10/805590 | 19-Mar-2004 | Pending |
| SYSTEMS AND METHODS FOR SWITCHING AND MIXING SIGNALS IN A MULTI-CHANNEL AMPLIFIER | United States | 10/843852 | 12-May-2004 | Pending |
| SYSTEMS AND METHODS FOR CONTROLLING AUDIO VOLUME IN THE | United States | 12/202355 | 01-Sep-2008 | Pending |

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|--|---------------|
| PROCESSOR OF A HIGH DEFINITION AUDIO CODEC | | | | |
| SYSTEMS AND METHODS FOR COMMUNICATION BETWEEN A PC APPLICATION AND THE DSP IN AN HDA AUDIO CODEC | United States | 12/202356 | 01-Sep-2008 | Published |
| SYSTEMS AND METHODS FOR OVERRIDING HARDWIRED RESPONSES IN AN HDA CODEC | United States | 12/202358 | 01-Sep-2008 | Published |
| SYSTEMS AND METHODS FOR BOOTING A CODEC PROCESSOR OVER A HIGH DEFINITION AUDIO BUS | United States | 12/202359 | 01-Sep-2008 | Published |
| SYSTEMS AND METHODS FOR SHADOWING AN HDA CODEC | United States | 12/202360 | 01-Sep-2008 | Published |
| SYSTEMS AND METHODS FOR CONTROLLING HDA SYSTEM CAPABILITIES | United States | 12/202361 | 01-Sep-2008 | Pending |
| SYSTEMS AND METHODS TO MINIMIZE STARTUP TRANSIENTS IN CLASS D AMPLIFIERS | United States | 11/847449 | 30-Aug-2007 | Published |
| SYSTEMS AND METHODS FOR LOAD DETECTION AND CORRECTION IN A DIGITAL AMPLIFIER | United States | 12/544806 | 20-Aug-2009 | Pending |

D2 Audio Corporation – Foreign Registered Patents and Patent Applications.

| Title | Jurisdiction | Reg. No./ Serial No. | Filing Date / Reg. Date | Status |
|--|---------------------|---------------------------------|------------------------------------|---------------|
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | CN | 80010567 | 29-Apr-2009 | Granted |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | EP | 1606875 | 21-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | FR | 1606875 | 21-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | DE | 6004013940 | 21-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | GB | 1606875 | 21-May-2008 | Granted |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | DE | 1609241 | 12-Dec-2007 | Granted |

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|--|---------------------|---------------------------------|--|---------------|
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | EP | 1609241 | 12-Dec-2007 | Granted |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | GB | 1609241 | 12-Dec-2007 | Granted |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | FR | 1609241 | 12-Dec-2007 | Granted |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | CN | ZL80010769 | 08-Jul-2009 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | CN | ZL80010526 | 24-Jun-2009 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | EP | 1623501 | 12-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | JP | 4358860 | 14-Aug-2009 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | DE | 1623501 | 12-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | FR | 1623501 | 12-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | GB | 1623501 | 12-May-2008 | Granted |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | WO | US04/08546 | 29-Mar-2004 | Pending |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER | JP | 2006-507403 | 16-Sep-2005 | Pending |

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| CIRCUITS | | | | |
| SYSTEMS AND METHODS FOR PROTECTION OF AUDIO AMPLIFIER CIRCUITS | HK | 06108266.4 | 25-Jul-2006 | Pending |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | CN | 0910138482.6 | 19-Mar-2004 | Pending |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | JP | 507404 | 16-Sep-2005 | Pending |
| SYSTEMS AND METHODS FOR IMPLEMENTING A SAMPLE RATE CONVERTER USING HARDWARE AND SOFTWARE TO MAXIMIZE SPEED AND FLEXIBILITY | HK | 07111872.3 | 01-Nov-2007 | Pending |
| CLIP DETECTION IN PWM AMPLIFIER | WO | PCT-04/08534 | 19-Mar-2004 | Pending |
| CLIP DETECTION IN PWM AMPLIFIER | JP | 2006-507396 | 16-Sep-2005 | Pending |
| CLIP DETECTION IN PWM AMPLIFIER | EP | 04757922.2 | 27-Sep-2005 | Pending |
| CLIP DETECTION IN PWM AMPLIFIER | CN | 0480009689.9 | 11-Oct-2005 | Pending |
| CLIP DETECTION IN PWM AMPLIFIER | HK | 07101872.4 | 15-Feb-2007 | Pending |
| SYSTEMS AND METHODS FOR PROVIDING MULTI CHANNEL PULSE WIDTH MODULATED AUDIO WITH STAGGERED OUTPUTS | HK | 06108265.5 | 27-Sep-2005 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | WO | PCT07/60984 | 24-Jan-2007 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | JP | 2008-551577 | 17-Jul-2008 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | CN | 07/8002954.4 | 23-Jul-2008 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN | EP | 07717387.0 | 22-Aug-2008 | Pending |

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| INPUT AUDIO SIGNAL | | | | |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | WO | PCT/07/60574 | 16-Jan- 2007 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | JP | 2008-550558 | 10-Jul-2008 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | CN | 80002413.1 | 16-Jul-2008 | Pending |
| SYSTEMS AND METHODS FOR IMPROVING PERFORMANCE IN A DIGITAL AMPLIFIER BY ADDING ULTRASONIC SIGNAL TO AN INPUT AUDIO SIGNAL | EP | 07717294.8 | 31-Jul-2008 | Pending |
| SYSTEMS AND METHODS FOR OVER- CURRENT PROTECTION | WO | PCT/07/61015 | 25-Jan- 2007 | Pending |
| SYSTEMS AND METHODS FOR OVER- CURRENT PROTECTION | EP | 07717391.2 | 25-Jan- 2007 | Pending |
| SYSTEMS AND METHODS FOR OVER- CURRENT PROTECTION | JP | 552565 | 11-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR OVER- CURRENT PROTECTION | CN | 80003547.5 | 26-Nov- 2008 | Pending |
| SYSTEMS AND METHODS FOR PULSE WIDTH MODULATING ASYMMETRIC SIGNAL LEVELS | WO | PCT/07/61399 | 31-Jan- 2007 | Pending |
| SYSTEMS AND METHODS FOR PULSE WIDTH MODULATING ASYMMETRIC SIGNAL LEVELS | EP | 07710437.0 | 31-Jan- 2007 | Pending |
| SYSTEMS AND METHODS FOR PULSE WIDTH MODULATING ASYMMETRIC SIGNAL LEVELS | JP | 08-552625 | 17-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR PULSE WIDTH MODULATING ASYMMETRIC SIGNAL LEVELS | CN | 80004155.0 | 24-Nov- 2008 | Pending |
| PWM FEEDBACK/FEEDFORWARD PROTECTION | WO | PCT/07/61769 | 07-Feb- 2007 | Pending |
| PWM FEEDBACK/FEEDFORWARD PROTECTION | JP | 2008-553549 | 07-Feb- 2007 | Pending |
| PWM FEEDBACK/FEEDFORWARD PROTECTION | CN | 200780005026 | 07-Feb- 2007 | Pending |
| PWM FEEDBACK/FEEDFORWARD PROTECTION | EP | 07756721.2 | 07-Feb- 2007 | Pending |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | WO | PCT/06/62687 | 28-Dec- 2006 | Pending |
| DIGITAL PWM AMPLIFIER WITH | CN | 80053489.2 | 28-Dec- | Pending |

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| SIMULATION-BASED FEEDBACK | | | 2006 | |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | EP | 06846841.2 | 28-Dec- 2006 | Pending |
| DIGITAL PWM AMPLIFIER WITH SIMULATION-BASED FEEDBACK | JP | 2008-548859 | 28-Dec- 2006 | Pending |
| SYSTEMS AND METHODS FOR CONTROLLING AUDIO VOLUME IN THE PROCESSOR OF A HIGH DEFINITION AUDIO CODEC | WO | US08/74963 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR CONTROLLING AUDIO VOLUME IN THE PROCESSOR OF A HIGH DEFINITION AUDIO CODEC | TW | 97133404 | 01-Sep- 2008 | Published |
| SYSTEMS AND METHODS FOR COMMUNICATION BETWEEN A PC APPLICATION AND THE DSP IN AN HDA AUDIO CODEC | TW | 97133405 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR COMMUNICATION BETWEEN A PC APPLICATION AND THE DSP IN AN HDA AUDIO CODEC | WO | 7S08/74964 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR BOOTING A CODEC PROCESSOR OVER A HIGH DEFINITION AUDIO BUS | TW | 97133406 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR BOOTING A CODEC PROCESSOR OVER A HIGH DEFINITION AUDIO BUS | WO | US08/74965 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR SHADOWING AN HDA CODEC | TW | 97133408 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR SHADOWING AN HDA CODEC | WO | US008/74966 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR CONTROLLING HDA SYSTEM CAPABILITIES | TW | 97133410 | 01-Sep- 2008 | Pending |
| SYSTEMS AND METHODS FOR CONTROLLING HDA SYSTEM CAPABILITIES | WO | US08/74967 | 01-Sep- 2008 | Pending |
| SWITCHING AMPLIFIER OPTIMIZED FOR MINIMAL AND STABLE OUTPUT SEMICONDUCTOR DEAD TIMES | WO | 08/83677 | 14-Nov- 2008 | Pending |
| SWITCHING AMPLIFIER OPTIMIZED FOR MINIMAL AND STABLE OUTPUT SEMICONDUCTOR DEAD TIMES | TW | 097144058 | 14-Nov- 2008 | Pending |

Planet ATE, Inc.

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|--------------------------------------|---------------|----------|-----------|-------------|
| Method and apparatus for coupling an | United States | US | | |

| Title | Jurisdiction | Reg. No. | Reg. Date | Filing Date |
|--------------------------------|---------------------|-----------------|------------------|--------------------|
| input node to an output node | | 6933746 | 08/23/2005 | Granted |
| Device under test power supply | United States | US 7675310 | 03/09/2010 | Granted |