

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Micron Technology, Inc.	10/03/2008
RECEIVING PARTY DATA	
Name:	Aptina Imaging Corporation
Street Address:	Walker House, 87 Mary Street
Internal Address:	George Town
City:	Grand Cayman
State/Country:	CAYMAN ISLANDS
Postal Code:	KY1-9002
PROPERTY NUMBERS Total: 68	
Property Type	Number
Application Number:	10313598
Application Number:	10360188
Application Number:	10388813
Application Number:	10427318
Application Number:	10455283
Application Number:	10615522
Application Number:	10649006
Application Number:	10651597
Application Number:	10740935
Application Number:	10754434
Application Number:	10841854
Application Number:	10851012
Application Number:	10857050
Application Number:	10912952

OP \$2720.00 10313598

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PATENT
REEL: 023159 FRAME: 0424

Application Number:	10936900
Application Number:	10948505
Application Number:	10981011
Application Number:	10984701
Application Number:	10987260
Application Number:	11007979
Application Number:	11048180
Application Number:	11048479
Application Number:	11067451
Application Number:	11142166
Application Number:	11238461
Application Number:	11239851
Application Number:	11272400
Application Number:	11273990
Application Number:	11323693
Application Number:	11525282
Application Number:	11525428
Application Number:	11601346
Application Number:	11648456
Application Number:	11716863
Application Number:	11760990
Application Number:	11764307
Application Number:	11769248
Application Number:	11782779
Application Number:	11842345
Application Number:	11850135
Application Number:	11862650
Application Number:	11869806
Application Number:	11926687
Application Number:	11961208
Application Number:	11969246
Application Number:	11970006
Application Number:	11971461
Application Number:	12015595
Application Number:	12017458

Application Number:	12026641
Application Number:	12061806
Application Number:	12103800
Application Number:	12103816
Application Number:	12108002
Application Number:	12115022
Application Number:	12115045
Application Number:	12118022
Application Number:	12145789
Application Number:	12145794
Application Number:	12173896
Application Number:	12176760
Application Number:	12182375
Application Number:	12185395
Application Number:	12252565
Application Number:	11457956
Application Number:	11456784
Application Number:	11470657
Application Number:	11530574

CORRESPONDENCE DATA

Fax Number: (610)407-0701

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

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ATTORNEY DOCKET NUMBER:

APTN-00001

NAME OF SUBMITTER:

Kenneth N. Nigon

Total Attachments: 45

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PATENT ASSIGNMENT AGREEMENT

1. Definitions

(a) "Agreement" shall mean this Patent Assignment Agreement.

(b) "Assignee" shall mean **Aptina Imaging Corporation**, a Cayman Islands corporation with offices at c/o Citco Trustees (Cayman) Limited, Regatta Office Park, West Bay Road, Grand Cayman, Y1-1205, Cayman Islands.

(c) "Assignor" shall mean **Micron Technology, Inc.**, a Delaware corporation with offices at 8000 South Federal Way, Boise, ID 83707.

(d) "Effective Date" shall mean October 3, 2008.

(e)



(f)



(g) "Imaging Patents" shall mean those patents identified in ATTACHMENT "A" hereto, including, without limitation, all divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts thereof, and which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(h) "Imaging Patent Applications" shall mean those filed patent applications identified in ATTACHMENT "B" hereto, including, without limitation, all patents, divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(i) "Semiconductor Patents" shall mean those patents identified in ATTACHMENT "D" hereto, including, without limitation, all divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts thereof, and which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(j) "Semiconductor Patent Applications" shall mean those filed patent applications identified in ATTACHMENT "E" hereto, including, without limitation, all patents, divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(k) [REDACTED]

2. [REDACTED]

(a) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Imaging Patents, including all rights to causes of action and remedies related thereto (including the right to sue for past, present or future infringement of rights related to the foregoing and the right to collect damages therefor). Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to issue the Imaging Patents to Assignee and to record assignment of the Imaging Patents to Assignee.

(b) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Intellectual Property rights in the Imaging Patent Applications. Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to record assignment of the Imaging Patent Applications to Assignee.

(c) [REDACTED]

(d) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, and subject further to the restrictions on the Semiconductor Patents set out below, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Semiconductor Patents, including all rights to causes of action and remedies related thereto (including the right to sue for past, present or future infringement of rights related to the foregoing and the right to collect damages therefor). Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to issue the Semiconductor Patents to Assignee and to record assignment of the Semiconductor Patents to Assignee.

(e) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, [REDACTED], Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Intellectual Property rights in the Semiconductor Patent Applications. Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to record assignment of the Semiconductor Patent Applications to Assignee.

(f)

[REDACTED]

[REDACTED]

[REDACTED]

3 [REDACTED]

[REDACTED]

4. [REDACTED]

[REDACTED]

5. [REDACTED]

[REDACTED]

[REDACTED]

6. [REDACTED]

[REDACTED]

7. General

This Agreement shall be effective as of the Effective Date hereof and shall be binding on the respective heirs, assigns, representatives, and successors of Assignor and of Assignee.

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Agreed to by:

Micron Technology, Inc.

Signed: _____

Date: 9/26/08, 2008

Notarization

State of Idaho
County of Ada

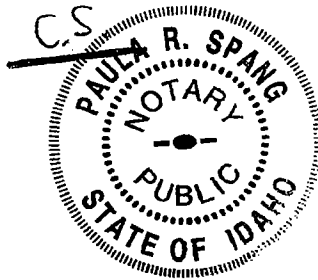
On 9/26/08, before me, Paula R. Spang, personally appeared the above-named Steven R. Appleton

who executed this Assignment in my presence and acknowledged to me that he did so of his own free will and in his authorized capacity for the purposes set forth herein.

Signed: _____

My commission expires: 8/12/11

REVIEWED
MTI LEGAL



Agreed to by:

Aptina Imaging Corporation

Signed: _____

Date: 9/26/08, 2008

Notarization

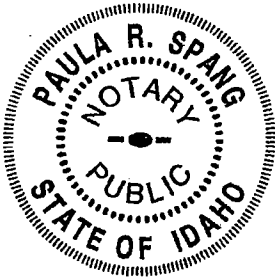
State of Idaho
County of Ada

On 9/26/08, before me, Paula R. Spang, personally appeared the above-named Thomas L. Lauer, Jr.

who executed this Assignment in my presence and acknowledged to me that he did so of his own free will and in his authorized capacity for the purposes set forth herein.

Signed: _____

My commission expires: 8/12/11



[Signature page to the Patent Assignment Agreement]

ATTACHMENT "A"



ATTACHMENT "B"



Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	SEQUENCE				
2006-1081.00/US	METHOD AND APPARATUS PROVIDING RULE-BASED AUTO EXPOSURE TECHNIQUE PRESERVING SCENE DYNAMIC RANGE	Pending	United States of America		Jun 27, 2008
2006-1086.00/US	AMPLIFIER CIRCUITS, IMAGER, SYSTEM AND METHOD OF OPERATION	Pending	United States of America	11835026	Aug 7, 2007
2006-1096.00/US	EMBEDDED CACHE IN IMAGE SENSORS	Pending	United States of America	12074446	Mar 3, 2008
2006-1103.00/PC	FUSED MULTI-ARRAY SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONAL	Pending	PCT	PCTUS0872995	Aug 13, 2008
2006-1103.00/TW	FUSED MULTI-ARRAY SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONAL	Pending	Taiwan R.O.C		Aug 21, 2008
2006-1103.00/US	FUSED MULTI-ARRAY SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONAL	Pending	United States of America	11842345	Aug 21, 2007
2006-1104.00/IT	PHOTO GUIDING STRUCTURE AND METHOD OF FORMING THE SAME	Pending	Italy	RM2007A000280	May 22, 2007
2006-1104.00/US	PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME	Pending	United States of America	11907271	Oct 10, 2007
2006-1105.00/US	METHOD AND APPARATUS PROVIDING IMAGING AUTO FOCUS UTILIZING ABSOLUTE BLUR VALUE	Pending	United States of America	11902748	Sep 25, 2007
2006-1108.00/US	METHOD AND APPARATUS PROVIDING SHARED PIXEL ARCHITECTURE	Pending	United States of America	11905951	Oct 5, 2007
2006-1111.00/PC	CONFIGURABLE PIXEL	Pending	PCT	PCTUS2008060864	Apr 18, 2008

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	PIXELS WITH IMPROVED OPTICAL RESOLUTION AND METHODS OF OPERATING THE SAME				
2006-1136.00/US	METHOD, SYSTEM AND APPARATUS TO BOOST PIXEL FLOATING DIFFUSION NODE VOLTAGE	Pending	United States of America	11979719	Nov 7, 2007
2006-1152.00/PC	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEL COMPONENTS	Pending	PCT		Jul 31, 2008
2006-1152.00/TW	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEL COMPONENTS	Pending	Taiwan R.O.C.		Aug 22, 2008
2006-1152.00/US	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEL COMPONENTS	Pending	United States of America	11892516	Aug 23, 2007
2006-1164.00/US	NOISE AND PARASITIC CAPACITANCE REDUCTION FOR 1T1P CMOS	Pending	United States of America	11764307	Jun 18, 2007
2006-1166.00/PC	CAPACITOR MULTIPLIER CIRCUITS AND THE APPLICATIONS THEREOF TO ATTENUATE ROW-WISE TEMPORAL NOISE IN IMAGE SENSORS	Pending	PCT	PCTUS2008003591	Mar 19, 2008
2006-1166.00/TW	CAPACITOR MULTIPLIER CIRCUITS AND THE APPLICATIONS THEREOF TO ATTENUATE ROW-WISE TEMPORAL NOISE IN IMAGE SENSORS	Pending	Taiwan R.O.C.	09711243	Apr 3, 2008
2006-1166.00/US	CAPACITOR MULTIPLIER CIRCUITS AND THE APPLICATIONS THEREOF TO ATTENUATE ROW-WISE TEMPORAL NOISE IN IMAGE SENSORS	Pending	United States of America	11696608	Apr 4, 2007
2006-1186.00/US	METHODS, SYSTEMS AND APPARATUSES FOR MODELING OPTICAL	Pending	United States of America	11898889	Sep 17, 2007

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2006-1190.00/PC	METHOD, APPARATUS, AND SYSTEM PROVIDING MULTI-COLUMN SHARED READOUT FOR IMAGERS	Pending	PCT		Jun 30, 2008
2006-1190.00/US	METHOD, APPARATUS, AND SYSTEM PROVIDING MULTI-COLUMN SHARED READOUT FOR IMAGERS	Pending	United States of America	11862308	Jul 31, 2007
2006-1191.00/US	METHOD AND APPARATUS FOR REDUCING IMAGE ARTIFACTS BASED ON APERTURE-DRIVEN COLOR KILL WITH COLOR SATURATION ASSESSMENT	Pending	United States of America	11944933	Nov 26, 2007
2006-1241.00/US	GUIDED MODE RESONANCE TRANSMISSION COLOR FILTERS FOR COLOR GENERATION IN CMOS IMAGE SENSORS	Pending	United States of America	12115045	May 8, 2008
2006-1268.00/PC	MICROELECTRONIC IMAGERS AND METHODS FOR MANUFACTURING SUCH MICROELECTRONIC IMAGERS	Completed	PCT	PCTUS2008069511	Jul 9, 2008
2006-1268.00/SG	IMAGE SENSOR PACKAGE WITHOUT SUBSTRATE	Pending	Singapore	2007051774	Jul 12, 2007
2006-1268.00/TW	MICROELECTRONIC IMAGERS AND METHODS FOR MANUFACTURING SUCH MICROELECTRONIC IMAGERS	Pending	Taiwan R.O.C.	097126545	Jul 11, 2008
2006-1268.00/US	MICROELECTRONIC IMAGERS AND METHODS FOR MANUFACTURING SUCH MICROELECTRONIC IMAGERS	Pending	United States of America	11849062	Aug 31, 2007
2006-1285.00/PC	METHOD AND APPARATUS FOR IMAGE EXPOSURE CORRECTION	Pending	PCT		May 8, 2008
2006-1285.00/TW	METHOD AND APPARATUS FOR IMAGE EXPOSURE CORRECTION	Pending	Taiwan R.O.C.		May 22, 2008

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	FOR NON-OPTICAL PIXEL SELF TEST				
2006-1366.00/US	NAVIGATION ASSISTED MOSAIC PHOTOGRAPHY	Pending	United States of America	11850135	Sep 5, 2007
2006-1368.00/US	A METHOD FOR IDENTIFICATION OF ABERRANT PIXELS IN AN IMAGE SENSOR BASED ON INCONSISTENT SIGNAL LEVELS FROM THE FLOATING DIFFUSION AND THE MAIN PHOTODIODE	Pending	United States of America	11970006	Jan 7, 2008
2006-1369.00/US	USE OF HIGHLY MULTIPLEXED PIXEL STRUCTURE IN 3D BACKSIDE ILLUMINATED IMAGE SENSOR	Pending	United States of America	12015595	Jan 17, 2008
2006-1371.00/PC	APPARATUS, SYSTEM AND METHOD PROVIDING BACKSIDE ILLUMINATED IMAGING DEVICE	Pending	PCT		Aug 15, 2008
2006-1371.00/US	APPARATUS, SYSTEM AND METHOD PROVIDING BACKSIDE ILLUMINATED IMAGING DEVICE	Pending	United States of America	11892840	Aug 24, 2007
2006-1375.00/PC	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	PCT	PCTUS2008004947	Apr 17, 2007
2006-1375.00/TW	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	Taiwan R.O.C.	097117868	May 15, 2008
2006-1375.00/US	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	United States of America	11760990	Jun 11, 2007
2006-1382.00/PC	A METHOD FOR IMPROVING ELECTRICAL CROSSTALK AND SENSITIVITY BY PERFORMING COLOR SPECIFIC DEEP P WELL OPTIMIZATION	Pending	PCT	PCTUS2008073849	Aug 21, 2008
2006-1382.00/US	A METHOD FOR IMPROVING ELECTRICAL CROSSTALK AND SENSITIVITY BY PERFORMING COLOR SPECIFIC DEEP P WELL OPTIMIZATION	Pending	United States of America	11926687	Oct 29, 2007

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2006-1384.00/US	APPARATUS INCLUDING GREEN AND MAGENTA PIXELS AND METHOD THEREOF	Pending	United States of America	11961208	Dec 20, 2007
2006-1386.00/PC	SOLID STATE OPTICAL MOTION COMPENSATION	Pending	PCT	PCTUS2008005586	May 1, 2008
2006-1386.00/TW	SOLID STATE OPTICAL MOTION COMPENSATION	Pending	Taiwan R.O.C.		Jun 4, 2008
2006-1386.00/US	SOLID STATE OPTICAL MOTION COMPENSATION	Pending	United States of America	11782779	Jul 25, 2007
2006-1387.00/US	INTEGRATED OPTICAL CHARACTERISTICS MEASUREMENT CMOS IMAGE SENSOR	Pending	United States of America	11832822	Aug 2, 2007
2006-1388.00/US	CONSTRUCTION METHODS FOR BACKSIDE ILLUMINATED IMAGE SENSORS	Pending	United States of America	11971461	Jan 9, 2008
2006-1394.00/US	A METHOD, APPARATUS, AND SYSTEM FOR IMAGE STABILIZATION USING A SINGLE PIXEL ARRAY	Pending	United States of America	11987869	Dec 5, 2007
2007-0056.00/PC	METHOD OF FORMING A MICROLENS ARRAY AND IMAGING DEVICE AND SYSTEM CONTAINING SUCH A MICROLENS ARRAY	Pending	PCT		Jun 24, 2008
2007-0056.00/TW	METHOD OF FORMING A MICROLENS ARRAY AND IMAGING DEVICE AND SYSTEM CONTAINING SUCH A MICROLENS ARRAY	Pending	Taiwan R.O.C.		Jul 23, 2008
2007-0056.00/US	METHOD OF FORMING A MICROLENS ARRAY AND IMAGING DEVICE AND SYSTEM CONTAINING SUCH A MICROLENS ARRAY	Pending	United States of America	11882065	Jul 30, 2007
2007-0060.00/US	APPARATUS AND METHODS FOR PROVIDING OFFSET COMPENSATION FOR AN OPERATIONAL	Pending	United States of America	11978602	Oct 30, 2007

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2007-0105.00/US	ANTI-RESONANT REFLECTING OPTICAL WAVEGUIDE FOR IMAGER LIGHT PIPE	Pending	United States of America	11984623	Nov 20, 2007
2007-0128.00/US	METHODS AND APPRATUSES FOR SHARPENING IMAGES	Pending	United States of America	12052305	Mar 20, 2008
2007-0136.00/PC	IMAGERS WITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending	PCT		Jun 11, 2008
2007-0136.00/TW	IMAGERS WITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending	Taiwan R.O.C.		Jun 11, 2008
2007-0136.00/US	IMAGERS WITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending	United States of America	11763512	Jun 15, 2007
2007-0144.00/PC	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	PCT	PCTUS2008074191	Aug 25, 2008
2007-0144.00/TW	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	Taiwan R.O.C.		Sep 18, 2008
2007-0144.00/US	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	United States of America	11862650	Sep 27, 2007
2007-0145.00/US	METHODS AND APPARATUS FOR FLAT REGION IMAGE FILTERING	Pending	United States of America	12222215	Aug 5, 2008
2007-0157.00/US	METHOD, APPARATUS AND SYSTEM FOR A LOW POWER IMAGER DEVICE	Pending	United States of America	11889894	Aug 15, 2007
2007-0158.00/US	SEMICONDUCTOR STRUCTURES WITH DUAL ISOLATION STRUCTURES, METHODS FOR FORMING SAME AND SYSTEMS INCLUDING SAME	Pending	United States of America	12027697	Feb 7, 2008
2007-0159.00/US	METHOD AND APPARATUS FOR BREAKING SURFACE TENSION DURING A RECESSED COLOR FILTER ARRAY PROCESS	Pending	United States of America	12047960	Mar 14, 2008
2007-0165.00/PC	IMAGER PIXEL STRUCTURE	Pending	PCT	PCTUS0867239	Jun 17, 2008

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2007-0313.00/TW	THIN SEMICONDUCTOR DIE PACKAGES AND ASSOCIATED SYSTEMS AND METHODS	Pending	Taiwan R.O.C.	097128162	Jul 24, 2008
2007-0313.00/US	THIN SEMICONDUCTOR DIE PACKAGES AND ASSOCIATED SYSTEMS AND METHODS	Pending	United States of America	11861143	Sep 25, 2007
2007-0343.00/US	PROGRAMMABLE MEMORY APPARATUS, SYSTEMS, AND METHODS	Pending	United States of America	12049048	Mar 14, 2008
2007-0349.00/US	METHOD AND APPARATUS FOR COMBINING MULTIPLE EXPOSURE IMAGE DATA	Pending	United States of America	11896439	Aug 31, 2007
2007-0358.00/US	A CAMERA SYSTEM ON-CHIP FOR MULTIPLE OBJECT TRACKING AND IDENTIFICATION	Pending	United States of America	11869806	Oct 10, 2007
2007-0369.00/US	METHODS AND APPARATUSES PROVIDING COLOR FILTER PATTERNS ARRANGED TO REDUCE CROSSTALK IN IMAGE SIGNALS	Pending	United States of America	12010620	Jan 28, 2008
2007-0370.00/US	METHODS AND SYSTEM FOR DIGITALLY STABILIZING VIDEO CAPTURED FROM ROLLING SHUTTER CAMERAS	Pending	United States of America	12004056	Dec 20, 2007
2007-0371.00/US	IMAGE STABILIZATION DEVICE AND METHOD	Pending	United States of America		Dec 21, 2007
2007-0391.00/US	SYSTEMS, METHODS, AND DEVICES FOR PREVENTING SHOOT-THROUGH CURRENT WITHIN AND BETWEEN SIGNAL LINE DRIVERS OF SEMICONDUCTOR DEVICES	Pending	United States of America	12056165	Mar 25, 2008
2007-0412.00/US	BIASING APPARATUS, SYSTEMS AND METHODS	Pending	United States of America	11867313	Oct 4, 2007
2007-0428.00/US	METHOD AND APPARATUS FOR CONTROLLING DUAL CONVERSION GAIN SIGNAL	Pending	United States of America	11873314	Oct 16, 2007

Aptina Applications

FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	IN IMAGING DEVICES				
2007-0429.00/US	METHOD AND APPARATUS FOR CONTROLLING ANTI-BLOOMING TIMING TO REDUCE EFFECTS OF DARK CURRENT	Pending	United States of America	11942771	Nov 20, 2007
2007-0441.00/US	EMI SHIELDING FOR IMAGER DEVICES	Pending	United States of America	11966642	Dec 28, 2007
2007-0462.00/US	METHOD AND APPARATUS FOR REDUCING MOTION BLUR IN DIGITAL IMAGES	Pending	United States of America	12046860	Mar 12, 2008
2007-0486.00/US	METHODS, SYSTEMS AND APPARATUS USING BARRIER SELF-CALIBRATION FOR HIGH DYNAMIC RANGE IMAGERS	Pending	United States of America	11976301	Oct 23, 2007
2007-0498.00/US	METHOD AND APPARATUS PROVIDING MULTIPLE EXPOSURE HIGH DYNAMIC RANGE SENSOR	Pending	United States of America	12216433	Jul 3, 2008
2007-0503.00/US	GRAVITY AND PRESSURE ENHANCED REFLOW PROCESS TO FORM MINI LENS	Pending	United States of America	12017458	Jan 22, 2008
2007-0508.00/US	SYSTEMS AND METHODS TO ACHIEVE PREFERRED IMAGER COLOR REPRODUCTION	Pending	United States of America		Feb 6, 2008
2007-0510.00/US	ENCAPSULATED IMAGER PACKAGING	Pending	United States of America	12007778	Jan 15, 2008
2007-0515.00/US	METHOD AND APPARATUS PROVIDING DYNAMIC BOOSTED CONTROL SIGNAL FOR A PIXEL	Pending	United States of America		Apr 11, 2008
2007-0519.00/US	LENS, A LENS ARRAY AND IMAGING DEVICE AND SYSTEM HAVING A LENS, AND METHOD OF FORMING THE SAME	Pending	United States of America	11976404	Oct 24, 2007
2007-0537.00/US	DUAL CONVERSION RATE VOLTAGE BOOSTER APPARATUS AND METHOD	Pending	United States of America	11892111	Aug 20, 2007

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	SYMMETRICAL OPTICS				
2007-0763.00/US	METHODS AND SYSTEMS FOR INTENSITY MODELING INCLUDING POLARIZATION	Pending	United States of America	12120052	May 13, 2008
2007-0768.00/US	METHOD AND APPARATUS PROVIDING ANALOG ROW NOISE CORRECTION AND HOT PIXEL FILTERING	Pending	United States of America	12114354	May 2, 2008
2007-0794.00/US	EMI SHIELDING METHOD FOR CHIP SCALE IMAGER PACKAGE	Pending	United States of America	12116768	May 7, 2008
2007-0799.00/US	APPARATUS, METHOD, AND SYSTEM PROVIDING PIXEL HAVING INCREASED FILL FACTOR	Pending	United States of America	12149607	May 5, 2008
2007-0803.00/US	START-UP CIRCUIT FOR SMIA INPUT CLOCK BUFFER	Pending	United States of America	12026641	Feb 6, 2008
2007-0847.00/US	IMAGING MODULE WITH SYMMETRICAL LENS SYSTEM AND METHOD OF MANUFACTURE	Pending	United States of America	12146308	Jun 25, 2008
2007-0910.00/US	METHOD AND APPARATUS FOR IMAGE STABILIZATION USING MULTIPLE IMAGE CAPTURES	Pending	United States of America	12149723	May 7, 2008
2007-0912.00/US	METHOD AND APPARATUS FOR REDUCING TEMPORAL ROW-WISE NOISE IN IMAGERS	Pending	United States of America		Jun 11, 2008
2007-0922.00/US	LENS CLEANING WARNING SYSTEM ON CAMERAS	Pending	United States of America	12118022	May 9, 2008
2007-0926.00/US	ERS DIGITAL CAMERAS XE FLASH SYNC TO MIDDLE OF FRAME USED IN COMBINATION WITH DIGITAL ZOOM	Pending	United States of America	12182375	Jul 30, 2008
2007-0940.00/US	METHOD AND APPARATUS FOR PROVIDING A LOW-LEVEL INTERCONNECT LAYER IN AN IMAGER DEVICE	Pending	United States of America	12155455	Jun 4, 2008
2007-0944.00/US	METHOD AND APPARATUS PROVIDING SMOOTHING IN	Pending	United States of America	12155308	Jun 2, 2008

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	A VIDEO STABILIZATION SYSTEM				
2007-0945.00/US	METHOD OF CAPTURING HIGH DYNAMIC RANGE IMAGES WITH PEOPLE IN THE SCENE	Pending	United States of America	12115022	May 5, 2008
2007-0950.00/US	ANTI-BLOOMING PROTECTION OF PIXELS IN A PIXEL ARRAY FOR MULTIPLE SCALING MODES	Pending	United States of America	12155531	Jun 5, 2008
2007-0959.00/US	METHOD OF FORMING A PERMANENT CARRIER AND SPACER WAFER FOR WAFER LEVEL OPTICS AND ASSOCIATED STRUCTURE	Pending	United States of America	12073998	Mar 12, 2008
2007-0960.00/US	METHOD AND APPARATUS PROVIDING UNIFORM SEPARATION OF LENS WAFER AND STRUCTURE BONDED THERETO	Pending	United States of America	12153074	May 13, 2008
2007-0971.00/GB	METHOD AND APPARATUS PROVIDING PERSPECTIVE CORRECTION AND/OR IMAGE DEWARPING	Pending	United Kingdom	08131245	Jul 17, 2008
2007-0971.00/US	METHOD AND APPARATUS PROVIDING PERSPECTIVE CORRECTION AND/OR IMAGE DEWARPING	Pending	United States of America		Aug 20, 2008
2007-0972.00/US	DUAL BUFFER SYSTEM FOR IMAGE PROCESSING	Pending	United States of America	12234723	Sep 22, 2008
2007-0988.00/US	SYSTEM, METHOD, AND APPARATUS FOR VARIABLE RATE PIXEL DATA TRANSFER AND STORAGE	Pending	United States of America	12234725	Sep 22, 2008
2007-0995.00/US	METHOD AND SYSTEM FOR MOTION ESTIMATION IN DIGITAL IMAGING APPLICATIONS	Pending	United States of America	12125425	May 22, 2008
2007-0996.00/US	METHOD AND APPARATUS PROVIDING SINGLET WAFER LENS SYSTEM WITH FIELD FLATTENER	Pending	United States of America		Jul 2, 2008
2007-1001.00/US	IMAGE NOISE LEVEL	Pending	United States of America	12103800	Apr 16, 2008

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2007-1006.00/US	ESTIMATION FROM JPEG DATA METHOD AND APPARATUS FOR REDUCING COLOR MATERIAL RELATED DEFECTS IN IMAGERS	Pending	United States of America		Jun 18, 2008
2007-1007.00/US	LOW-POWER COLUMN PARALLEL CYCLIC ANALOG-TO-DIGITAL CONVERTER	Pending	United States of America	12145620	Jun 25, 2008
2007-1087.00/US	OVER-MOLDED GLASS LENSES AND METHOD OF FORMING THE SAME	Pending	United States of America		Jul 1, 2008
2007-1109.00/US	METHOD AND APPARATUS PROVIDING PRE-DISTORTED SOLID STATE IMAGE SENSORS FOR LENS DISTORTION COMPENSATION	Pending	United States of America	12119242	May 12, 2008
2007-1110.00/US	METHOD AND APPARATUS TO FORM LENSES OF LENS MASTERS USING STEP-AND-REPEAT PIN MOLDING PROCESS	Pending	United States of America	12103816	Apr 16, 2008
2007-1147.00/US	COMPARATOR CONTROLLED CHARGE PUMP FOR NEGATIVE VOLTAGE BOOSTER	Pending	United States of America	12173896	Jul 16, 2008
2007-1145.00/US	METHOD AND APPARATUS FOR CHIEF RAY ANGLE CORRECTION USING A DIFFRACTIVE LENS	Pending	United States of America	12166077	Jul 1, 2008
2007-1167.00/US	5T PIXEL ARCHITECTURE FOR PROGRAMMABLE SHARING OF FLOATING DIFFUSION NODE	Closed	United States of America		
2007-1177.00/US	METHOD AND APPARATUS FOR LOW COST MOTION DETECTION	Pending	United States of America	12173327	Jul 15, 2008
2007-1195.00/US	APPARATUS AND METHOD FOR EXTENDED DEPTH OF FIELD IMAGING	Pending	United States of America	11956553	Dec 14, 2007
2008-0044.00/US	METHOD AND APPARATUS	Pending	United States of America		Aug 20, 2008

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	PROVIDING AN IMAGER WITH A SHARED POWER SUPPLY AND READOUT LINE FOR PIXELS				
2008-0065.00/US	METHOD AND APPARATUS FOR CALIBRATING AND CORRECTING SHADING NON-UNIFORMITY OF CAMERA	Pending	United States of America	12145794	Jun 25, 2008
2008-0079.00/US	MICROELECTRONIC IMAGER PACKAGES WITH COVERS HAVING NON-PLANAR SURFACE FEATURES	Pending	United States of America	12173658	Jul 15, 2008
2008-0082.00/US	METHOD AND APPARATUS FOR MOTION COMPENSATED PRE-FILTERING	Pending	United States of America	12145789	Jun 25, 2008
2008-0124.00/US	METHOD AND APPARATUS FOR EXTENDED DEPTH OF FIELD IMAGE RESTORATION	Pending	United States of America	12128234	May 28, 2008
2008-0127.00/US	EXTENDED DEPTH OF FIELD LENSES AND METHODS FOR THEIR DESIGN, OPTIMIZATION, AND MANUFACTURING	Pending	United States of America	12167741	Jul 3, 2008
AVGO-0001.00/EP	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	Pending	European Patent Office	020030516	Feb 12, 2002
AVGO-0001.00/JP	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	Pending	Japan	2002103188	Apr 5, 2002
AVGO-0001.00/US	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	Pending	United States of America	09827942	Apr 6, 2001
AVGO-0002.00/US	Apparatus and Method for Generating Multi-Image	Pending	United States of America	10011155	Dec 6, 2001

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0006.00/TW	Scenes With a Camera Cam-locking positioning mechanism	Pending	Taiwan R.O.C.	93136854	Nov 30, 2004
AVGO-0006.00/WO	Cam-locking positioning mechanism	Abandoned	PCT	PCTUS2005020786	Jun 13, 2005
AVGO-0006.01/US	Cam-locking positioning mechanism	Pending	United States of America	12185395	Aug 4, 2008
AVGO-0007.00/US	Image Blur Reduction Using Dual Cameras	Pending	United States of America	11769248	Jun 27, 2007
AVGO-0008.00/JP	Auto Focus Auxiliary Light	Pending	Japan	2006214490	Aug 7, 2006
AVGO-0009.00/CN	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	China	2004800372297	Dec 14, 2004
AVGO-0009.00/DE	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Germany		Dec 14, 2004
AVGO-0009.00/EP	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	European Patent Office	048144588	Dec 14, 2004
AVGO-0009.00/ES	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Spain		Dec 14, 2004
AVGO-0009.00/FR	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	France		Dec 14, 2004
AVGO-0009.00/GB	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	United Kingdom		Dec 14, 2004
AVGO-0009.00/HK	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Hong Kong	071086098	Aug 10, 2007
AVGO-0009.00/IT	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Italy		Dec 14, 2004

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0009.00/JP	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Japan	2006545435	Dec 14, 2004
AVGO-0009.00/KR	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	Republic of Korea	20067012167	Dec 14, 2004
AVGO-0009.00/SG	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Abandoned	Singapore	2006036495	Dec 14, 2004
AVGO-0009.00/WO	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Completed	PCT	PCTUS2004042279	Dec 14, 2004
AVGO-0009.02/US	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Pending	United States of America	12145098	Jun 24, 2008
AVGO-0011.01/JP	METALLIC OPTICAL BARRIER FOR PHOTO-DETECTOR ARRAY IS ALSO INTERCONNECTING ELECTRODE	Pending	Japan	2005153680	Apr 23, 2001
AVGO-0013.00/EP	HYSTERESIS IN IMAGE PROCESSING ALGORITHMS	Pending	European Patent Office	020017042	Jan 24, 2002
AVGO-0013.00/JP	HYSTERESIS IN IMAGE PROCESSING ALGORITHMS	Allowed	Japan	2002077689	Mar 20, 2002
AVGO-0014.00/JP	TELECENTRIC SINGLET HAVING A SMALL HEIGHT REQUIREMENT	Pending	Japan	2003049158	Feb 26, 2003
AVGO-0015.00/JP	Solid state image sensor array for correcting curvilinear distortion of a camera lens system and method for fabricating the image sensor array	Pending	Japan	2002363626	Dec 16, 2002
AVGO-0015.00/US	Solid state image sensor array for correcting curvilinear distortion of a camera lens system and method for fabricating the image sensor array	Abandoned	United States of America	10062695	Jan 31, 2002

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0016.00/DE	array INTEGRATED CIRCUIT METALLIZATION USING A TITANIUM/ALUMINUM ALLOY	Pending	Germany	101529139	Oct 26, 2001
AVGO-0016.00/JP	INTEGRATED CIRCUIT METALLIZATION USING A TITANIUM/ALUMINUM ALLOY	Abandoned	Japan	2001326119	Oct 24, 2001
AVGO-0016.01/JP	INTEGRATED CIRCUIT METALLIZATION USING A TITANIUM/ALUMINUM ALLOY	Pending	Japan	2006250729	Oct 24, 2001
AVGO-0017.00/DE	METHOD FOR REDUCING COHERENT ROW-WISE AND COLUMN-WISE FIXED PATTERN NOISE IN CMOS IMAGE SENSORS	Pending	Germany	102398895	Aug 29, 2002
AVGO-0017.00/JP	METHOD FOR REDUCING COHERENT ROW-WISE AND COLUMN-WISE FIXED PATTERN NOISE IN CMOS IMAGE SENSORS	Pending	Japan	2002269618	Sep 17, 2002
AVGO-0019.00/EP	TWO-COLOR PHOTO-DETECTOR AND METHODS FOR DEMOSAICING A TWO-COLOR PHOTO-DETECTOR ARRAY	Pending	European Patent Office	020227062	Oct 10, 2002
AVGO-0019.00/JP	TWO-COLOR PHOTO-DETECTOR AND METHODS FOR DEMOSAICING A TWO-COLOR PHOTO-DETECTOR ARRAY	Pending	Japan	2003018619	Jan 24, 2003
AVGO-0020.00/US	On-Chip Array Test System For Image Sensors	Pending	United States of America	11646456	Dec 28, 2005
AVGO-0021.00/EP	DEFECTIVE PIXEL CORRECTION METHOD AND SYSTEM	Pending	European Patent Office	020017059	Jan 24, 2002
AVGO-0021.00/JP	DEFECTIVE PIXEL CORRECTION METHOD AND SYSTEM	Pending	Japan	2002103422	Apr 5, 2002

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AVGO-0021.01/US	DEFECTIVE PIXEL CORRECTION METHOD AND SYSTEM	Pending	United States of America	11729535	Mar 29, 2007
AVGO-0023.00/US	Method And Apparatus For Programmably Setting A Sampling Delay In An Image Sensor Device	Pending	United States of America	11456784	Jul 11, 2006

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0025.00/EP	Method And Apparatus For Suppressing Noise In Image Sensor Devices	Pending	European Patent Office	078369121	Aug 15, 2007
AVGO-0025.00/PC	Method And Apparatus For Suppressing Noise In Image Sensor Devices	Pending	PCT	PCTUS2007018156	Aug 15, 2007
AVGO-0025.00/TW	Method And Apparatus For Suppressing Noise In Image Sensor Devices	Pending	Taiwan R.O.C.	096131105	Aug 22, 2007
AVGO-0025.00/US	Method And Apparatus For Suppressing Noise In Image Sensor Devices	Pending	United States of America	11470857	Sep 7, 2006
AVGO-0026.00/EP	DIGITAL IMAGE SYSTEM AND METHOD FOR IMPLEMENTING AN ADAPTIVE DEMOSAICING METHOD	Pending	European Patent Office	020099594	May 3, 2002
AVGO-0026.00/JP	DIGITAL IMAGE SYSTEM AND METHOD FOR IMPLEMENTING AN ADAPTIVE DEMOSAICING METHOD	Pending	Japan	2002247617	Aug 27, 2002
AVGO-0027.00/JP	System Solution For Amorphous LAG Problem	Pending	Japan	2001307448	Oct 3, 2001
AVGO-0027.00/US	System Solution For Amorphous LAG Problem	Abandoned	United States of America	09678951	Oct 3, 2000
AVGO-0028.00/EP	SOCKETABLE FLEXIBLE CIRCUIT BASED ELECTRONIC DEVICE MODULE AND A SOCKET FOR THE SAME	Pending	European Patent Office	020130118	Jun 12, 2002
AVGO-0028.00/JP	SOCKETABLE FLEXIBLE CIRCUIT BASED ELECTRONIC DEVICE MODULE AND A SOCKET FOR THE SAME	Allowed	Japan	2002219387	Jul 29, 2002
AVGO-0029.00/DE	Image Sensor Having Integrated Electrical Optical Device And Related Method	Pending	Germany	1020050165648	Apr 11, 2005
AVGO-0029.00/JP	Image Sensor Having Integrated Electrical Optical Device And Related Method	Pending	Japan	P2005240926	Aug 23, 2005
AVGO-0029.00/TW	Image Sensor Having	Pending	Taiwan R.O.C.	94105016	Feb 21, 2005

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0029.01/US	Integrated Electrical Optical Device And Related Method	Pending	United States of America	11969246	Jan 4, 2008
AVGO-0031.00/JP	Image Sensor Having Integrated Electrical Optical Device And Related Method	Abandoned	Japan	2002151870	May 27, 2002
AVGO-0034.00/JP	AVALANCHE PHOTODIODE ARRAY BIASING DEVICE AND AVALANCHE PHOTODIODE STRUCTURE				
AVGO-0034.00/CN	Multi-magnification color image sensor	Pending	China	2005800359403	Aug 10, 2005
AVGO-0034.00/EP	Multi-magnification color image sensor	Pending	European Patent Office	057843591	Aug 10, 2005
AVGO-0034.00/HK	Multi-magnification color image sensor	Pending	Hong Kong	071126652	Nov 20, 2007
AVGO-0034.00/JP	Multi-magnification color image sensor	Pending	Japan	2007529904	Aug 10, 2005
AVGO-0034.00/KR	Multi-magnification color image sensor	Pending	Republic of Korea	20077006772	Aug 10, 2005
AVGO-0034.00/PC	Multi-magnification color image sensor	Completed	PCT	PCTUS2005028405	Aug 10, 2005
AVGO-0034.00/SG	Multi-magnification color image sensor	Pending	Singapore	2007012766	Aug 10, 2005
AVGO-0034.00/TW	Multi-magnification color image sensor	Pending	Taiwan R.O.C.	94103693	Feb 4, 2005
AVGO-0034.01/US	Multi-magnification color image sensor	Pending	United States of America	12182525	Jul 30, 2008
AVGO-0037.00/JP	SEQUENTIAL READ-OUT METHOD AND SYSTEM THAT EMPLOYS A SINGLE AMPLIFIER FOR MULTIPLE COLUMNS	Pending	Japan	2002297742	Oct 10, 2002
AVGO-0037.00/KR	SEQUENTIAL READ-OUT METHOD AND SYSTEM THAT EMPLOYS A SINGLE AMPLIFIER FOR MULTIPLE COLUMNS	Pending	Republic of Korea	2002063092	Oct 16, 2002
AVGO-0042.00/DE	LEADLESS LEADFRAME ELECTRONIC PACKAGE AND SENSOR MODULE INCORPORATING SAME	Pending	Germany	103462929	Jul 18, 2003

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AVGO-0042.00/JP	LEADLESS LEADFRAME ELECTRONIC PACKAGE AND SENSOR MODULE INCORPORATING SAME	Pending	Japan	2004030847	Feb 6, 2004
AVGO-0042.01/US	LEADLESS LEADFRAME ELECTRONIC PACKAGE AND SENSOR MODULE INCORPORATING SAME	Pending	United States of America	11477004	Jun 28, 2006
AVGO-0043.00/DE	Method and apparatus for optimizing image sensor noise and dynamic range	Pending	Germany	103572414	Dec 8, 2003
AVGO-0043.00/JP	Method and apparatus for optimizing image sensor noise and dynamic range	Pending	Japan	P2004129330	Apr 26, 2004
AVGO-0043.00/US	Method and apparatus for optimizing image sensor noise and dynamic range	Allowed	United States of America	10427318	Apr 30, 2003
AVGO-0045.00/EP	Method and apparatus for removing flicker from images	Pending	European Patent Office	020129979	Jun 12, 2002
AVGO-0045.00/JP	Method and apparatus for removing flicker from images	Pending	Japan	2002212267	Jul 22, 2002
AVGO-0046.00/JP	DIGITAL IMAGE SYSTEM AND METHOD FOR COMBINING DEMOSAICING AND BAD PIXEL CORRECTION	Pending	Japan	2003198261	Jul 17, 2003
AVGO-0050.00/JP	SYSTEMS AND METHODS OF SAMPLING A PHOTODETECTOR AND PHOTOCELL CIRCUITS INCORPORATING THE SAME	Pending	Japan	2002330162	Nov 14, 2002
AVGO-0051.00/CN	Image sensor with embedded optical element	Pending	China	2006100032309	Jan 27, 2006
AVGO-0051.00/GB	Image sensor with embedded optical element	Pending	United Kingdom	06019416	Jan 31, 2006
AVGO-0051.00/JP	Image sensor with embedded optical element	Pending	Japan	200621934	Jan 31, 2006
AVGO-0051.00/TW	Image sensor with embedded optical element	Pending	Taiwan R.O.C.	94131819	Sep 16, 2005
AVGO-0051.00/US	Image sensor with embedded optical element	Pending	United States of America	11048180	Feb 1, 2005

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AVGO-0052.00/JP	Method For Detecting And Correcting Defective Pixels In A Digital Image Sensor	Pending	Japan	2003324172	Sep 17, 2003
AVGO-0053.00/EP	CMOS image sensor using gradient index chip scale lenses	Pending	European Patent Office	030078067	Apr 4, 2003
AVGO-0053.00/JP	CMOS image sensor using gradient index chip scale lenses	Pending	Japan	2003293248	Aug 13, 2003
AVGO-0053.00/PR	CMOS image sensor using gradient index chip scale lenses	Completed	United States of America	60403411	Aug 13, 2002
AVGO-0053.01/US	CMOS image sensor using gradient index chip scale lenses	Pending	United States of America	12189633	Jul 31, 2008
AVGO-0054.00/JP	IMAGING APPARATUS AND ITS MANUFACTURING METHOD	Pending	Japan	2003146149	May 23, 2003
AVGO-0055.00/US	Apparatus and method for detecting and compensating for illuminant intensity changes within an image	Pending	United States of America	10388813	Mar 14, 2003
AVGO-0056.01/US	Multifunction lens	Pending	United States of America	12176760	Jul 21, 2008
AVGO-0057.00/JP	WAFER SCALE MANUFACTURING METHOD	Pending	Japan	2004058701	Mar 3, 2004
AVGO-0058.00/EP	System and method for shape reconstruction from optical images	Pending	European Patent Office	030253033	Nov 3, 2003
AVGO-0058.01/EP	System and method for shape reconstruction from optical images	Pending	European Patent Office	070016340	Nov 3, 2003
AVGO-0059.00/DE	A Method And Apparatus For Distributed Analyses Of Images	Pending	Germany	1020050450776	Sep 21, 2005
AVGO-0059.00/GB	A Method And Apparatus For Distributed Analyses Of Images	Pending	United Kingdom	05225040	Nov 3, 2005
AVGO-0059.00/JP	A Method And Apparatus For Distributed Analyses Of Images	Pending	Japan	2005360643	Dec 14, 2005
AVGO-0059.01/US	A Method And Apparatus For Distributed Analyses Of	Pending	United States of America	12138579	Jun 13, 2008

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AVGO-0062.00/CN	Images SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Pending	China	2005101032689	Sep 20, 2005
AVGO-0062.00/GB	SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Pending	United Kingdom	05231675	Nov 14, 2005
AVGO-0062.00/JP	SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Pending	Japan	2005349186	Dec 2, 2005
AVGO-0062.00/KR	SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Pending	Republic of Korea	20050119772	Dec 8, 2005
AVGO-0062.00/TW	SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Pending	Taiwan R.O.C.	94125108	Jul 25, 2005
AVGO-0062.00/US	SYSTEM AND METHOD FOR DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	Allowed	United States of America	11007979	Dec 9, 2004
AVGO-0063.00/GB	SYSTEM AND METHOD FOR FOCUSING A DIGITAL CAMERA	Pending	United Kingdom	05233689	Nov 16, 2005
AVGO-0063.00/JP	SYSTEM AND METHOD FOR FOCUSING A DIGITAL CAMERA	Pending	Japan	2005325097	Nov 9, 2005
AVGO-0063.00/US	SYSTEM AND METHOD FOR FOCUSING A DIGITAL CAMERA	Pending	United States of America	10989615	Nov 16, 2004
AVGO-0064.00/JP	METHOD AND STRUCTURE FOR REDUCING LEAK CURRENT OF ACTIVE REGION DIODE AND	Pending	Japan	20040056673	Mar 1, 2001

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	SOURCE/DRAIN DIFFUSION REGION				
AVGO-0065.00/DE	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	Germany	103555897	Nov 28, 2003
AVGO-0065.00/JP	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	Japan	2004115460	Apr 9, 2004
AVGO-0065.01/US	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	United States of America	11753095	May 25, 2007
AVGO-0068.00/US	Reducing image sensor lag	Pending	United States of America	10615522	Jul 8, 2003
AVGO-0069.00/US	Digital correlated double sampling using dual analog path	Allowed	United States of America	10651597	Aug 29, 2003
AVGO-0070.00/US	Apparatus including a dual camera module and method of using the same	Pending	United States of America	10651599	Aug 29, 2003
AVGO-0071.00/JP	COMPACT PIXEL RESET CIRCUITS USING REVERSED CURRENT READOUT	Pending	Japan	P2004094176	Mar 29, 2004
AVGO-0072.00/US	Digital camera that enters a sub-sampling mode for at least one auto function	Pending	United States of America	10360188	Feb 7, 2003
AVGO-0076.00/US	Active pixel sensor array sampling system and method	Pending	United States of America	10798994	Mar 11, 2004
AVGO-0077.01/US	SAMPLE AND HOLD CIRCUIT AND ACTIVE PIXEL SENSOR ARRAY SAMPLING SYSTEM UTILIZING SAME	Pending	United States of America	12108002	Apr 23, 2008
AVGO-0079.00/CN	Circuit For An Active Pixel Sensor	Pending	China	200410070347X	Jul 29, 2004
AVGO-0079.00/DE	Circuit For An Active Pixel Sensor	Pending	Germany	10200400968279	Feb 27, 2004
AVGO-0079.00/JP	Circuit For An Active Pixel Sensor	Pending	Japan	P2004221094	Jul 29, 2004
AVGO-0079.01/US	CIRCUIT FOR AN ACTIVE PIXEL	Pending	United States of America	12061806	Apr 3, 2008
AVGO-0080.00/WO	LOW NOISE AMPLIFIER AND IMAGING ELEMENT USING	Completed	PCT	US0309160	Mar 24, 2003

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	SAME				
AVGO-0081.00/GB	Photo-array layout for monitoring image statistics	Pending	United Kingdom	04279536	Dec 21, 2004
AVGO-0081.00/JP	Photo-array layout for monitoring image statistics	Pending	Japan	2005001363	Jan 6, 2005
AVGO-0081.00/TW	Photo-array layout for monitoring image statistics	Pending	Taiwan R.O.C.	93127427	Sep 10, 2004
AVGO-0081.00/US	Photo-array layout for monitoring image statistics	Allowed	United States of America	10754434	Jan 9, 2004
AVGO-0082.00/US	Use of telephone-specific components to provide refocusing in a camera-ready device	Allowed	United States of America	10912952	Aug 5, 2004
AVGO-0083.00/US	A Color Filter Device And Method For Eliminating Or Reducing Non-Uniform Color Error Caused By Asymmetric Color Cross-Talk In Image Sensor Devices	Pending	United States of America	11530574	Sep 11, 2006
AVGO-0084.00/JP	MOTION DETECTING CAMERA SYSTEM	Pending	Japan	P2004125704	Apr 21, 2004
AVGO-0084.00/US	MOTION DETECTING CAMERA SYSTEM	Pending	United States of America	10423523	Apr 25, 2003
AVGO-0085.00/CN	Method And System For Determining Motion Based On Difference Image Correlation	Pending	China	2005800427523	Oct 31, 2005
AVGO-0085.00/DE	Method And System For Determining Motion Based On Difference Image Correlation	Pending	Germany		Oct 31, 2005
AVGO-0085.00/EP	Method And System For Determining Motion Based On Difference Image Correlation	Pending	European Patent Office	058211988	Oct 31, 2005
AVGO-0085.00/FR	Method And System For Determining Motion Based On Difference Image Correlation	Pending	France		Oct 31, 2005
AVGO-0085.00/GB	Method And System For Determining Motion Based On Difference Image Correlation	Pending	United Kingdom		Oct 31, 2005
AVGO-0085.00/HK	Method And System For Determining Motion Based On Difference Image Correlation	Pending	Hong Kong	081007165	Jan 19, 2008

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	LOW FRN HIGHLGAIN CAPACITIVE TRANSMIMPEDANCE AMPLIFIER				
AVGO-0092.00/US	Multiple image autofocus	Pending	United States of America	10857050	May 28, 2004
AVGO-0093.00/WO	ANTI-BLOOMING CIRCUIT FOR CMOS IMAGE SENSORS	Abandoned	PCT	PCTUS0224516	Jul 30, 2002
AVGO-0095.00/CN	Image Sensor With Active Reset And Randomly Addressable Pixels	Pending	China	2004100498422	Jun 24, 2004
AVGO-0095.00/JP	Image Sensor With Active Reset And Randomly Addressable Pixels	Pending	Japan	P2004229640	Aug 5, 2004
AVGO-0095.00/TW	Image Sensor With Active Reset And Randomly Addressable Pixels	Pending	Taiwan R.O.C.	93106174	Mar 9, 2004
AVGO-0097.00/EP	DIM ROW SUPPRESSION SYSTEM AND METHOD FOR ACTIVE PIXEL SENSOR ARRAYS	Pending	European Patent Office		Nov 15, 2007
AVGO-0097.00/PC	DIM ROW SUPPRESSION SYSTEM AND METHOD FOR ACTIVE PIXEL SENSOR ARRAYS	Pending	PCT	PCTUS2007023629	Nov 15, 2007
AVGO-0097.00/TW	A Novel Solution For Dim Row Suppression In 3T CMOS APS	Pending	Taiwan R.O.C.	096143589	Nov 16, 2007
AVGO-0097.00/US	A Novel Solution For Dim Row Suppression In 3T CMOS APS	Pending	United States of America	11601346	Nov 17, 2006
AVGO-0098.00/EP	Image Sensor Device Having One Or More Modified Dummy Pixels That Are Usable As Non-Volatile Memory Elements	Pending	European Patent Office		Sep 19, 2007
AVGO-0098.00/PC	Image Sensor Device Having One Or More Modified Dummy Pixels That Are Usable As Non-Volatile Memory Elements	Pending	PCT	PCTUS2007020250	Sep 19, 2007
AVGO-0098.00/TW	Image Sensor Device Having One Or More Modified Dummy Pixels That Are Usable As Non-Volatile Memory	Pending	Taiwan R.O.C.	096135625	Sep 21, 2007

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0098.00/US	Image Sensor Device Having One Or More Modified Dummy Pixels That Are Usable As Non-Volatile Memory Elements	Pending	United States of America	11533816	Sep 21, 2006
AVGO-0099.00/US	Camera That Stores Pictures On A Remote System	Pending	United States of America	11068152	Feb 28, 2005
AVGO-0100.00/US	First-In-First-Out Intermediate Image Storage	Allowed	United States of America	10948505	Sep 23, 2004
AVGO-0101.00/US	Boost Signal Interface Method And Apparatus	Pending	United States of America	10981011	Nov 3, 2004
AVGO-0102.00/US	Imaging With Clustered Photosite Arrays	Pending	United States of America	11008451	Dec 9, 2004
AVGO-0104.00/GB	CAMERA WITH SCALABLE RESOLUTION	Pending	United Kingdom	05144852	Jul 14, 2005
AVGO-0104.00/JP	CAMERA WITH SCALABLE RESOLUTION	Pending	Japan	2005231404	Aug 9, 2005
AVGO-0104.00/US	CAMERA WITH SCALABLE RESOLUTION	Pending	United States of America	10915591	Aug 9, 2004
AVGO-0105.00/CN	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	China	2004800417955	Dec 14, 2004
AVGO-0105.00/EP	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	European Patent Office	049140719	Dec 14, 2004
AVGO-0105.00/HK	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	Hong Kong	071022158	Feb 28, 2007
AVGO-0105.00/JP	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	Japan	2005545804	Dec 14, 2004
AVGO-0105.00/PC	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT	Completed	PCT	PCTUS2004041841	Dec 14, 2004

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS				

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0105.00/US	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	United States of America	10740935	Dec 18, 2003
AVGO-0106.00/CN	LIGHT FILTERING IMAGE SENSOR	Pending	China	2005100072157	Feb 4, 2005
AVGO-0106.00/DE	LIGHT FILTERING IMAGE SENSOR	Pending	Germany	1020050055907	Feb 7, 2005
AVGO-0106.00/IL	LIGHT FILTERING IMAGE SENSOR	Pending	Israel	166071	Dec 30, 2004
AVGO-0106.00/JP	LIGHT FILTERING IMAGE SENSOR	Pending	Japan	P2005145135	May 18, 2005
AVGO-0106.00/TW	LIGHT FILTERING IMAGE SENSOR	Pending	Taiwan R.O.C.	093141826	Dec 31, 2004
AVGO-0106.00/US	Minimal depth light filtering image sensor	Pending	United States of America	10851012	May 21, 2004
AVGO-0107.00/US	Digital camera producing image embedded with diagnostic characteristic	Allowed	United States of America	10841854	May 7, 2004
AVGO-0108.00/GB	Spectral normalization using illuminant exposure estimation	Pending	United Kingdom	06005219	Jan 11, 2006
AVGO-0108.00/JP	Spectral normalization using illuminant exposure estimation	Pending	Japan	200630553	Feb 8, 2006
AVGO-0110.00/JP	Pixel Having Photoconductive Layers	Pending	Japan	2006325248	Dec 15, 2006
AVGO-0110.00/TW	Pixel Having Photoconductive Layers	Pending	Taiwan R.O.C.	95142406	Nov 16, 2006
AVGO-0110.00/US	Pixel Having Photoconductive Layers	Pending	United States of America	11291257	Dec 14, 2005
AVGO-0111.00/US	Imaging system	Pending	United States of America	10974077	Oct 27, 2004
AVGO-0112.00/CN	CMOS Image Sensor With Reduced 1/f Noise	Pending	China	2005100024327	Jan 21, 2005
AVGO-0112.00/GB	CMOS Image Sensor With Reduced 1/f Noise	Pending	United Kingdom	05084579	Apr 26, 2005
AVGO-0112.00/JP	CMOS Image Sensor With Reduced 1/f Noise	Pending	Japan	P200512134155	Apr 19, 2005
AVGO-0112.00/TW	CMOS Image Sensor With Reduced 1/f Noise	Pending	Taiwan R.O.C.	093141403	Dec 30, 2004

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AVGO-0112.00/US	CMOS Image Sensor With Reduced 1/f Noise	Allowed	United States of America	10842903	May 10, 2004
AVGO-0113.00/FR	Column amplifier architecture in an active pixel sensor	Abandoned	France	993035955	May 7, 1999
AVGO-0113.00/IT	Column amplifier architecture in an active pixel sensor	Abandoned	Italy	993035955	May 7, 1999
AVGO-0113.00/JP	ARCHITECTURE FOR PIXEL SENSOR COLUMN AMPLIFIER	Pending	Japan	PH11125466	May 6, 1999
AVGO-0113.00/SG	PIXEL SENSOR COLUMN AMPLIFIER ARCHITECTURE	Abandoned	Singapore	99000768	Jan 13, 1999
AVGO-0114.00/US	System and method for bonding camera components after adjustment	Abandoned	United States of America	10936900	Sep 9, 2004
AVGO-0115.00/US	Auto-focus system using bubble technology	Pending	United States of America	10981272	Nov 3, 2004
AVGO-0116.00/EP	Method and system for reducing artifacts in image detection	Pending	European Patent Office	057689853	Jun 29, 2005
AVGO-0116.00/JP	Method and system for reducing artifacts in image detection	Closed	Japan		Jun 29, 2005
AVGO-0116.00/KR	Method and system for reducing artifacts in image detection	Pending	Republic of Korea	20077002432	Jun 29, 2005
AVGO-0116.00/TW	Method and system for reducing artifacts in image detection	Pending	Taiwan R.O.C.	93138860	Nov 30, 2004
AVGO-0116.00/US	Method and system for reducing artifacts in image detection	Pending	United States of America	10882038	Jun 30, 2004
AVGO-0116.00/WO	Method and system for reducing artifacts in image detection	Completed	PCT	PCTUS2005023386	Jun 29, 2005
AVGO-0117.00/CN	Image encoding with dynamic buffer-capacity-level-based compression adjustment	Pending	China	200510093163X	Aug 19, 2005
AVGO-0117.00/GB	Image encoding with dynamic buffer-capacity-level-based compression adjustment	Pending	United Kingdom	05216585	Oct 24, 2005
AVGO-0117.00/JP	Image encoding with dynamic	Pending	Japan	2005324565	Nov 9, 2005

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0117.00/TW	buffer-capacity-level-based compression adjustment Image encoding with dynamic buffer-capacity-level-based compression adjustment	Pending	Taiwan R.O.C.	094125148	Jul 25, 2005
AVGO-0117.00/US	Image encoding with dynamic buffer-capacity-level-based compression adjustment	Allowed	United States of America	10987260	Nov 12, 2004
AVGO-0118.00/CN	OPTICAL ENHANCEMENT OF INTEGRATED CIRCUIT PHOTODETECTORS	Pending	China	2005100931682	Aug 19, 2005
AVGO-0118.00/GB	OPTICAL ENHANCEMENT OF INTEGRATED CIRCUIT PHOTODETECTORS	Pending	United Kingdom	05227582	Nov 8, 2005
AVGO-0118.00/JP	OPTICAL ENHANCEMENT OF INTEGRATED CIRCUIT PHOTODETECTORS	Pending	Japan	2005323267	Nov 8, 2005
AVGO-0118.00/TW	OPTICAL ENHANCEMENT OF INTEGRATED CIRCUIT PHOTODETECTORS	Pending	Taiwan R.O.C.	094125288	Jul 26, 2005
AVGO-0118.01/US	OPTICAL ENHANCEMENT OF INTEGRATED CIRCUIT PHOTODETECTORS	Allowed	United States of America	11716863	Mar 12, 2007
AVGO-0119.00/US	Pixel With Asymmetric Transfer Gate Channel Doping	Pending	United States of America	11323693	Dec 30, 2005
AVGO-0119.01/US	Pixel With Asymmetric Transfer Gate Channel Doping	Pending	United States of America	11707848	Feb 16, 2007
AVGO-0122.00/CN	System and method for processing images using centralized image correction data	Pending	China	2006100996234	May 25, 2006
AVGO-0122.00/GB	System and method for processing images using centralized image correction data	Pending	United Kingdom	06104038	May 25, 2006
AVGO-0122.00/HK	System and method for processing images using centralized image correction data	Pending	Hong Kong	071069385	Jun 28, 2007
AVGO-0122.00/JP	System and method for processing images using centralized image correction	Pending	Japan	2006142297	May 29, 2006

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0122.00/KR	data. System and method for processing images using centralized image correction data	Pending	Republic of Korea	20060046652	May 24, 2006
AVGO-0122.00/TW	System and method for processing images using centralized image correction data	Pending	Taiwan R.O.C.	95117625	May 18, 2006
AVGO-0122.00/US	System and method for processing images using centralized image correction data	Pending	United States of America	11136941	May 25, 2005
AVGO-0123.00/CN	System and method for reducing read-out noise in a pixel array	Pending	China	2006100998780	May 31, 2006
AVGO-0123.00/GB	System and method for reducing read-out noise in a pixel array	Pending	United Kingdom	06107718	May 31, 2006
AVGO-0123.00/HK	System and method for reducing read-out noise in a pixel array	Pending	Hong Kong	071079542	Jul 23, 2007
AVGO-0123.00/JP	System and method for reducing read-out noise in a pixel array	Pending	Japan	2006149390	May 30, 2006
AVGO-0123.00/KR	System and method for reducing read-out noise in a pixel array	Pending	Republic of Korea	1020060048902	May 30, 2006
AVGO-0123.00/TW	System and method for reducing read-out noise in a pixel array	Pending	Taiwan R.O.C.	95117622	May 18, 2006
AVGO-0123.00/US	System and method for reducing read-out noise in a pixel array	Pending	United States of America	11142166	May 31, 2005
AVGO-0124.00/US	Correcting Photographs Obtained By A Handheld Device	Pending	United States of America	11272400	Nov 10, 2005
AVGO-0125.00/PC	Analog Vertical Sub-Sampling In An Active Pixel Sensor (APS) Image Sensor	Pending	PCT		Aug 15, 2007
AVGO-0125.00/TW	Analog Vertical Sub-Sampling In An Active Pixel Sensor	Pending	Taiwan R.O.C.	096131105	Aug 22, 2007

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	(APS) Image Sensor				
AVGO-0126.00/CN	System and method for detecting thermal anomalies	Pending	China	2005101323665	Dec 21, 2005
AVGO-0126.00/GB	Detecting thermal anomalies using visual image and thermal image data	Pending	United Kingdom	06036867	Feb 23, 2006
AVGO-0126.00/JP	System and method for detecting thermal anomalies	Pending	Japan	200649906	Feb 27, 2006
AVGO-0126.00/TW	System and method for detecting thermal anomalies	Pending	Taiwan R.O.C.	94147502	Dec 30, 2005
AVGO-0126.00/US	System and method for detecting thermal anomalies	Allowed	United States of America	11067451	Feb 25, 2005
AVGO-0127.00/CN	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	China	2005100931659	Aug 19, 2005
AVGO-0127.00/GB	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	United Kingdom	05227608	Nov 8, 2005
AVGO-0127.00/JP	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	Japan	2005323272	Nov 8, 2005
AVGO-0127.00/TW	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	Taiwan R.O.C.	094125149	Jul 25, 2005
AVGO-0127.00/US	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Abandoned	United States of America	10984701	Nov 9, 2004
AVGO-0127.01/US	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	United States of America	11525428	Sep 22, 2006
AVGO-0129.00/US	Multi-Camera System and Method	Pending	United States of America	11238461	Sep 28, 2005
AVGO-0130.00/CN	Pixel with Spatially Varying Sensor Positions	Pending	China	2006101507131	Oct 24, 2006
AVGO-0130.00/DE	Pixel with Spatially Varying Sensor Positions	Pending	Germany	1020060495659	Oct 20, 2006
AVGO-0130.00/GB	Pixel with Spatially Varying Sensor Positions	Pending	United Kingdom	0520151133	Oct 11, 2006
AVGO-0130.00/HK	Pixel with Spatially Varying Sensor Positions	Pending	Hong Kong	071094669	Oct 11, 2006

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0130.00/JP	Pixel with Spatially Varying Sensor Positions	Pending	Japan	2006286416	Oct 20, 2006
AVGO-0130.00/US	Pixel with Spatially Varying Sensor Positions	Allowed	United States of America	11256743	Oct 24, 2005
AVGO-0130.01/US	Pixel with Spatially Varying Sensor Positions	Pending	United States of America	12202666	Sep 2, 2008
AVGO-0132.00/US	METHOD AND APPARATUS FOR DETECTING FAILED RESET IN PIXELS OF AN IMAGER	Pending	United States of America	11048479	Jan 31, 2005
AVGO-0133.00/US	Motion detecting camera system	Pending	United States of America	11079401	Mar 14, 2005
AVGO-0134.00/US	System And Method Of Lens Placement	Allowed	United States of America	11273990	Nov 15, 2005
AVGO-0135.00/US	Dark current/channel difference compensated image sensor	Pending	United States of America	11140650	May 27, 2005
AVGO-0136.00/CN	Reduce Crosstalk CMOS Image Sensors	Pending	China	2006101038463	Aug 4, 2006
AVGO-0136.00/EP	Reduce Crosstalk CMOS Image Sensors	Pending	European Patent Office	060153566	Jul 24, 2006
AVGO-0136.00/HK	Reduce Crosstalk CMOS Image Sensors	Pending	Hong Kong	071098317	Sep 10, 2007
AVGO-0136.00/JP	Reduce Crosstalk CMOS Image Sensors	Pending	Japan	2006212759	Aug 4, 2006
AVGO-0136.00/KR	Reduce Crosstalk CMOS Image Sensors	Pending	Republic of Korea	20060073274	Aug 3, 2006
AVGO-0136.00/TW	Reduce Crosstalk CMOS Image Sensors	Pending	Taiwan R.O.C.	95127523	Jul 27, 2006
AVGO-0136.01/US	Reduce Crosstalk CMOS Image Sensors	Pending	United States of America	11940569	Nov 15, 2007
AVGO-0137.00/US	Flexible camera lens barrel	Allowed	United States of America	10465283	Jun 4, 2003
AVGO-0138.00/GB	Image Sensor and Method of Configuring an Image Sensor	Pending	United Kingdom	06090294	May 5, 2006
AVGO-0138.00/JP	PIXEL WITH SPATIALLY VARYING METAL ROUTE POSITIONS	Pending	Japan	2006129206	May 8, 2006
AVGO-0139.00/US	Self-Calibrating And /or Self-Testing Camera Module	Pending	United States of America	11239851	Sep 30, 2005

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0140.00/CN	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	China	2006101592350	Jun 2, 2006
AVGO-0140.00/GB	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	United Kingdom	06106389	May 30, 2006
AVGO-0140.00/HK	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	Hong Kong	071083430	Jul 31, 2007
AVGO-0140.00/JP	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	Japan	2006156077	Jun 5, 2006
AVGO-0140.00/KR	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	Republic of Korea	20060049430	Jun 1, 2006
AVGO-0140.00/TW	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL DOPING	Pending	Taiwan R.O.C.	95119169	May 30, 2006
AVGO-0142.00/US	Lens Focusing Device With Latching Shoe	Pending	United States of America	11443889	Jun 2, 2005
AVGO-0143.00/PC	Automatically Capturing Focused Images Obtained Through Unguided Manual Focus Adjustment	Abandoned	PCT	PCTUS2007003936	Feb 13, 2007
AVGO-0143.00/US	Automatically Capturing Focused Images Obtained Through Unguided Manual Focus Adjustment	Pending	United States of America	11353965	Feb 14, 2006
AVGO-0144.00/US	Graphical User Interface Based Control Of Imaging Parameters Including Scene Illumination Parameters	Pending	United States of America	11525282	Sep 22, 2006
AVGO-0145.00/EP	Vertical Tri-Color Sensor	Pending	European Patent Office	077519569	Feb 28, 2007
AVGO-0145.00/JP	Vertical Tri-Color Sensor	Pending	Japan	100106851	Feb 28, 2007
AVGO-0145.00/KR	Vertical Tri-Color Sensor	Pending	Republic of Korea		Feb 28, 2007
AVGO-0145.00/PC	Vertical Tri-Color Sensor	Pending	PCT	PCTUS2007005225	Feb 28, 2007
AVGO-0145.00/SG	Vertical Tri-Color Sensor	Pending	Singapore		Feb 28, 2007
AVGO-0145.00/US	Vertical Tri-Color Sensor	Pending	United States of America	11362711	Feb 28, 2006
AVGO-0146.00/CN	Imaging Device With Blur Reduction System	Pending	China	2006101275948	Sep 19, 2006

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0177.00/DE	Semiconductor packaging structure	Abandoned	Germany	103433007	Sep 18, 2003
AVGO-0177.00/JP	Semiconductor packaging structure	Abandoned	Japan	2003384708	Nov 14, 2003
AVGO-0177.00/MY	Semiconductor Packaging Structure	Abandoned	Malaysia	20024261	Nov 14, 2002
AVGO-0177.00/US	Semiconductor packaging structure	Abandoned	United States of America	10549006	Aug 26, 2003
AVGO-0178.00/JP	Fixed-focus digital camera with defocus correction and a method thereof	Pending	Japan	2003407649	Dec 5, 2003
AVGO-0178.00/US	Fixed-focus digital camera with defocus correction and a method thereof	Abandoned	United States of America	10313598	Dec 5, 2002
AVGO-0178.00/EP	DIGITAL IMAGING CIRCUIT AND METHOD	Pending	European Patent Office	003063021	Jul 24, 2000
AVGO-0180.00/JP	APPARATUS AND METHOD FOR PROTECTING INTEGRATED CIRCUIT CHARGE STORAGE ELEMENTS FROM PHOTO-INDUCED CURRENTS	Pending	Japan	P2001089146	Mar 27, 2001
AVGO-0181.00/US	Image Acquisition Timing System And Method	Pending	United States of America	10754950	Jan 9, 2004
AVGO-0182.00/EP	Interlayer Dielectric For Passivation Of An Elevated Integrated Circuit Sensor Structure	Abandoned	European Patent Office	003038221	May 8, 2000
AVGO-0182.00/JP	Interlayer Dielectric For Passivation Of An Elevated Integrated Circuit Sensor Structure	Pending	Japan	P2000127497	Apr 27, 2000
AVGO-0185.00/CN	Methods for packaging an image sensor and a packaged image sensor	Pending	China	2006100928909	May 26, 2006
AVGO-0185.00/DE	Methods for packaging an image sensor and a packaged image sensor	Pending	Germany	1020060238796	May 22, 2006
AVGO-0185.00/HK	Methods for packaging an image sensor and a packaged image sensor	Pending	Hong Kong	071066627	Jun 21, 2007

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0193.00/US	Sensor Device Image Sensor Device Having Improved Noise Suppression Capability And A Method For Suppressing Noise In An Image Sensor Device	Pending	United States of America	11457956	Jul 17, 2006
AVGO-0194.00/US	A Buried-Gated Photodiode Device And Method For Configuring And Operating Same	Pending	United States of America	11412280	Apr 27, 2006
AVGO-0196.00/EP	ACTIVE PIXEL SENSOR WITH ENHANCED RESET	Pending	European Patent Office	001203272	Sep 15, 2000
AVGO-0196.00/SG	ACTIVE PIXEL SENSOR WITH ENHANCED RESET	Abandoned	Singapore	2000064063	Nov 29, 2000
AVGO-0197.00/CN	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	China	2003801026579	Oct 29, 2003
AVGO-0197.00/JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Closed	Japan	P2002318732	Oct 31, 2002
AVGO-0197.00/KR	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	Republic of Korea	20057007392	Oct 29, 2003
AVGO-0197.00/WO	Image Pickup Module Having Zoom For Mobile Device	Completed	PCT	PCT/JP2003013914	Oct 29, 2003
AVGO-0197.01/JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	Japan	P2004548082	Apr 4, 2005
PBIT-0004.01/US	INTERPOLATOR FOR A CMOS IMAGE SENSOR USING A DIGITAL REGISTER	Pending	United States of America	10774603	Feb 10, 2004
PBIT-0007.00/PR	LOW-VOLTAGE COMMON SOURCE SWITCHED CAPACITOR	Abandoned	United States of America	60068155	Dec 16, 1997
PBIT-0008.00/RO	LOW-VOLTAGE COMPARATOR WITH WIDE INPUT VOLTAGE SWING	Abandoned	PCT	pct/us9821894	Oct 16, 1998
PBIT-0008.00/PR	LOW-VOLTAGE COMPARATOR WITH WIDE INPUT VOLTAGE SWING	Abandoned	United States of America	60063750	Oct 17, 1997
PBIT-0009.00/CN	QUANTUM EFFICIENCY IMPROVEMENTS IN ACTIVE	Abandoned	China	998118793	Oct 5, 1998

ATTACHMENT "C"



ATTACHMENT "D"



ATTACHMENT "E"

