

<b>PATENT ASSIGNMENT COVER SHEET</b>
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 Stylesheet Version v1.2

EPAS ID: PAT2913325

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	NUNC PRO TUNC ASSIGNMENT
<b>EFFECTIVE DATE:</b>	05/19/2014

**CONVEYING PARTY DATA**

Name	Execution Date
POWER-ONE, INC.	06/04/2014

**RECEIVING PARTY DATA**

<b>Name:</b>	PAI CAPITAL LLC
<b>Street Address:</b>	740 CALLE PLANO
<b>City:</b>	CAMARILLO
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	93012

**PROPERTY NUMBERS Total: 100**

Property Type	Number
Patent Number:	5636107
Patent Number:	5715153
Patent Number:	5812387
Patent Number:	5986899
Patent Number:	6141224
Patent Number:	6204745
Patent Number:	6301139
Patent Number:	6304463
Patent Number:	6370047
Patent Number:	6370051
Patent Number:	6452796
Patent Number:	6501193
Patent Number:	6503088
Patent Number:	6560105
Patent Number:	6567279
Patent Number:	6692269
Patent Number:	6711039
Patent Number:	6741099
Patent Number:	6750396
Patent Number:	6788036

PATENT

Property Type	Number
Patent Number:	6792667
Patent Number:	6804125
Patent Number:	6815614
Patent Number:	6828762
Patent Number:	6833691
Patent Number:	6838898
Patent Number:	6850046
Patent Number:	6914348
Patent Number:	6917529
Patent Number:	6933709
Patent Number:	6936999
Patent Number:	6949916
Patent Number:	6958592
Patent Number:	6984156
Patent Number:	6989661
Patent Number:	7000125
Patent Number:	7023190
Patent Number:	7026664
Patent Number:	7027305
Patent Number:	7049677
Patent Number:	7049798
Patent Number:	7057379
Patent Number:	7080265
Patent Number:	7102898
Patent Number:	7129577
Patent Number:	7141956
Patent Number:	7145085
Patent Number:	7203041
Patent Number:	7235827
Patent Number:	7236368
Patent Number:	7239115
Patent Number:	7249267
Patent Number:	7253506
Patent Number:	7266709
Patent Number:	7274575
Patent Number:	7304462
Patent Number:	7315157
Patent Number:	7327149
Patent Number:	7333350

**PATENT**

Property Type	Number
Patent Number:	7372682
Patent Number:	7373527
Patent Number:	7394236
Patent Number:	7394445
Patent Number:	7456617
Patent Number:	7493504
Patent Number:	7526660
Patent Number:	7565559
Patent Number:	7646382
Patent Number:	7673157
Patent Number:	7710092
Patent Number:	7743266
Patent Number:	7834613
Patent Number:	7836322
Patent Number:	8031494
Patent Number:	8086874
Patent Number:	8179705
Patent Number:	8373403
Patent Number:	8502420
Patent Number:	8503195
Patent Number:	8503199
Patent Number:	8611104
Patent Number:	D494538
Application Number:	12780498
Application Number:	12957162
Application Number:	13227302
Application Number:	13237459
Application Number:	13370417
Application Number:	13370564
Application Number:	13427384
Application Number:	13705672
Application Number:	13739862
Application Number:	13860698
Application Number:	13886386
Application Number:	14195506
Application Number:	61764000
Application Number:	61787923
Application Number:	61787990
Application Number:	61883294

PATENT

Property Type	Number
Application Number:	61936535
Application Number:	61943065

**CORRESPONDENCE DATA**

**Fax Number:** (203)327-6401

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 2033274500

**Email:** docketing@ogrp.com

**Correspondent Name:** CHARLES N.J. RUGGIERO

**Address Line 1:** OHLANDT, GREELEY, RUGGIERO & PERLE, LLP

**Address Line 2:** ONE LANDMARK SQUARE, 10TH FLOOR

**Address Line 4:** STAMFORD, CONNECTICUT 06901

**ATTORNEY DOCKET NUMBER:** 0009866USI/4441C

**NAME OF SUBMITTER:** CHARLES N.J. RUGGIERO

**SIGNATURE:** /Charles N.J. Ruggiero/

**DATE SIGNED:** 06/25/2014

**Total Attachments: 8**

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## SHORT FORM PATENT ASSIGNMENT

This PATENT ASSIGNMENT (the "Assignment") effective as of May 19, 2014 (the "Effective Date"), is entered into by and between Power-One, Inc. a Delaware corporation ("Assignor"), and PAI Capital LLC, a Delaware limited liability company ("Assignee") (Assignor and Assignee each, a "Party" and collectively, the "Parties").

### RECITALS

WHEREAS, Assignor and Assignee have entered into an Intellectual Property Assignment Agreement (U.S.) on the date hereof (the "IP Assignment Agreement"), pursuant to which, among other things, Assignor has agreed to sell, and Assignee has agreed to purchase, all of Assignor's right, title and interest in and to the patents and patent applications listed in Schedule A (collectively, the "Assigned Patents"); and

WHEREAS, pursuant to the IP Assignment Agreement, Assignor wishes to assign to Assignee, and Assignee wishes to acquire from Assignor, all of Assignor's right, title and interest in and to the Assigned Patents.

NOW, THEREFORE, in consideration of the foregoing and the mutual promises and agreements contained in this Assignment and in the IP Assignment Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Assignment. Pursuant to the IP Assignment Agreement, Assignor, as of the Effective Date, hereby sells and assigns to Assignee and its successors and assigns, and Assignee hereby purchases, acquires and accepts, all of Assignor's right, title, and interest in, to and under the Assigned Patents, together with (A) the right to sue and recover damages for future or past infringements of the Assigned Patents and to fully and entirely stand in the place of the Assignor in all matters related thereto, (B) the right to prosecute, maintain and defend the Assigned Patents before any public or private agency, office or registrar including by filing reissues, reexaminations, divisions, continuations, continuations-in-part, substitutes, extensions and all other applications relating to the Assigned Patents and (C) the right, if any, to claim priority based on the filing dates of any of the Assigned Patents.

2. Cooperation. At Assignee's sole cost and expense, Assignor shall take reasonable actions and execute and deliver documents that Assignee may reasonably request to effect the terms of this Assignment and to perfect Assignee's title in and to those Assigned Patents assigned to it hereunder.

3. Recordation. Assignee shall be solely responsible for all actions and all costs and expenses whatsoever, including but not limited to taxes, attorneys' fees and patent office fees in any jurisdiction, associated with the perfection of Assignee's right, title and interest in and to the Assigned Patents and recordation and/or registration of this Assignment or any other document evidencing the assignment to Assignee of the Assigned Patents. The Assignor hereby authorizes the Director of Patents and Trademarks in the United States Patent and Trademark Office to record Assignee as the assignee and owner of the Assigned Patents and to deliver to Assignee, and to Assignee's attorneys, agents, successors or assigns, all official documents and communications as may be warranted by this Assignment.

4. Disclaimer. There are no warranties, representations or conditions, express or implied, statutory or otherwise between the Parties under this Assignment. ASSIGNEE ACKNOWLEDGES THAT THE ASSIGNED PATENTS ARE CONVEYED WITHOUT ANY REPRESENTATION, WARRANTY OR GUARANTY UNDER THIS ASSIGNMENT, INCLUDING WITHOUT LIMITATION AS TO THE CONDITION OF TITLE, ENFORCEABILITY, SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, MERCHANTABILITY, VALIDITY, REGISTRABILITY OR ANY OTHER WARRANTY, WHETHER EXPRESS OR IMPLIED OR BY OPERATION OF LAW, BY ANY PERSON, INCLUDING WITHOUT LIMITATION BY ASSIGNOR, OR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, ACCOUNTANTS, FINANCIAL, LEGAL OR OTHER REPRESENTATIVES OR ANY AFFILIATE OF SUCH PERSON.

5. Governing Law. This Assignment shall be governed by the law of the State of New York.

6. Entire Agreement. This Assignment, along with its Schedule and the IP Assignment Agreement and its Schedules, constitutes the entire understanding and agreement of the Parties with respect to the subject matter hereof and supersedes all prior and contemporaneous agreements or understandings, inducements or conditions, express or implied, written or oral, between and among the Parties with respect hereto.

7. General Provisions. This Assignment may be executed in any number of counterparts, each of which shall be deemed to be an original, and all of which together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page to this Assignment by facsimile or electronic mail shall be as effective as delivery of a manually executed counterpart of this Assignment. This Assignment may not be supplemented, altered or modified in any manner except by a writing signed by both Parties. The failure of a Party to enforce any terms or provisions of this Assignment shall not waive any of its rights under such terms or provisions. This Assignment is binding upon and inures to the benefit of the Parties and their respective successors and assigns.

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IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their respective duly authorized representatives as of the Effective Date.

**ASSIGNOR**

By TMBrown  
Name: Todd M. Brown  
Title: President

**ASSIGNEE**

By \_\_\_\_\_  
Name: Steven Hogge  
Title: Authorized Representative

IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be executed by their respective duly authorized representatives as of the Effective Date.

**ASSIGNOR**

By \_\_\_\_\_  
Name: Todd M. Brown  
Title: President

**ASSIGNEE**

By         S. Hogge         June 4, 2014  
Name: Steven Hogge  
Title: Authorized Representative



## SCHEDULE A

### Assigned Patents

	App./Patent/Pub No.	Title
1	US61/943,065	Power Converter Output Stage Using Heat Dissipating Bus bars
2	US61/936,535	Circuit and Method for Managing Common Mode Noise in Isolated Resonant DC-DC Power Converter
3	US61/883,294	Commutation Current Steering Method in a Zero Volt Switching Power Converter Using a Synchronous Rectifier
4	US20130279205	Hold-Up Time Enhancement Circuit for LLC Resonant Converter
5	US61/787,923	Power Converter with Self Driven Synchronous Rectifier Control Circuitry
6	US61/787,990	Multiphase LLC Converter with Active and Passive Internal Current sharing
7	US61/764,000	Power Converter with Non-Symmetrical Totem Pole Rectifier and Current-Shaping Branch Circuits
8	US13/886,386	Power Converter with Non-Symmetrical Totem Pole Rectifier and Current-Shaping Branch Circuits
9	US20130194831	Resonant Converter with Auxiliary Resonant Components and Holdup Time Control Circuitry
10	US20140015322	Circuit and Method for Providing Hold-Up Time in a DC-DC Converter
11	US20120218792	Digital Phase ADjustment Method for Multi-Phase Power Converters
12	US20130279205	Gain Enhancement Circuit for LLC Resonant Converter
13	US13/427,384	Integrated Magnetic with Isolated Drive Circuit
14	US13/370,417	Input Current Shaping Method for Transition and Discontinuous Mode Power Converter
15	US13/237,459	Anti-Vibration Fan Control System and Method for Modular Power Supplies
16	US13/227,302	Multi-Phase Resonant Converter with Trimmable Inductor and Phase Current Balancing Method
17	US12/957,162	Isolation System for a Bi-directional Communication Bus Line
18	US8502420	Power Supply Architecture for Controlling and Monitoring Isolated Output Modules
19	US8503195	System and Method for Zero-Volt Switching of Half Bridge Converter During Start-Up and Short Circuit Conditions
20	US8611104	Modular Power Supply Interconnection System with Pluggable Interface
21	US12/780,498	MAGNETIC COMPONENT WITH BOBBINLESS WINDING
22	US5715153	Dual-Output DC-DC Power Supply
23	US8503199	AC/DC Power Converter with Active Rectification and Input Current Shaping
24	US8373403	Circuit for Controlling Synchronous Rectifiers During the Start-Up into Prebiased Output Voltage
25	US8179705	Apparatus and Method of Optimizing Power System Efficiency Using a Power Loss Model (OMM File)
26	US7834613	Isolated Current Voltage, Voltage to Voltage Converter

	App./Patent/Pub . No.	Title
27	US8031494	Method and Apparatus for Providing an Initial Bias and Enable Signal for a Power Converter
28	US7000125	Method and System for Controlling and Monitoring an Array of Point-of-Load Regulators
29	US7646382	Digital Power Manager for Controlling and Monitoring an Array of Point-of-Load Regulators
30	US7493504	System and Method for Interleaving Point-of-Load Regulators
31	US7836322	System for Controlling an Array of Point-of-Load regulators and Auxiliary Devices
32	US7372682	System and Method for Managing Fault in a Power System
33	US7710092	Self Tracking ADC for Digital Power supply Control systems
34	US7743266	Method and System for Optimizing Filter Compensation Coefficients for a Digital Power Control System
35	US7565559	Method and System for Communicaitng Filter Compensation Coefficients for a Digital Power Control System
36	US8086874	Method and System for Controlling an Array of Point-of-Load Regulators and Auxiliary Devices (OMM file)
37	US7394236	Digital Double-Loop Output Voltage Regulation
38	US7333350	Self Driven Synchronous Rectifier Shutdown Circuit and Method
39	US7673157	Method and System for Controlling a Mixed Array of Point-of-Load Regulators Through a Bus Translator
40	US7266709	Method and System for Controlling an Array of Point-of-Load Regulators and Auxiliary Devices
41	US7315157	ADC Transfer Function Providing Improved Dynamic Regulation in a Switched Mode Power Supply
42	US7057379	System and Method for Providing Digital Pulse Width Modulation
43	US7526660	Voltage Set Point Control Scheme
44	US6936999	System and Method for Controlling Output-Timing Parameters of Power Converters
45	US7274575	AC COUPLED BIAS CIRCUIT FOR POWER CONVERTERS
46	US6914348	Dynamic Control of Power Converter Output Voltage Slew Rate
47	US7456617	System for Controlling an Monitoring an Array of Point-of-Load Regulators by a Host
48	US7327149	Bi-Directional MOS Current Sense Circuit
49	US6949916	System and Method for Controlling a Point-of-Load Regulator
50	US7239115	Digital Pulse Width Modulation Controller with Preset Filter Coefficients
51	US7141956	DIGITAL OUTPUT VOLTAGE REGULATION CIRCUIT HAVING FIRST CONTROL LOOP FOR HIGH SPEED AND SECOND CONTROL LOOP FOR HIGH
52	US6750396	I-Channel Surface-Mount Connector
53	US7304462	Compensated Droop Method for Paralleling of Power Supplies (C-Droop Method)
54	US7394445	Digital Power Manager for Controllinng and Monitoring an Array of Point-of-Load Regulators
55	US7236368	Integral Molded Heat Sinks on DC-DC Converters and Power Supplies
56	US6989661	System and Method for Providing Digital Pulse Width Modulation

	App./Patent/Pub No.	Title
57	US7145085	Enhanced Connection Arrangement for Co-Planar Vertical Surface Mounting of Subassemblies on a Mother Board
58	US7129577	Power Supply Packaging System
59	US7249267	Method and System for Communicating Filter Compensation Coefficients for a Digital Power Control System
60	US7203041	Primary Side Turn-Off of Self-Driven Synchronous Rectifiers
61	US7235827	Vertical Power JFET with Low On-Resistance for High Voltage Applications
62	US7023190	ADC Transfer Function Providing Improved Dynamic Regulation in a Switched Mode Power Supply
63	US7049677	Low Cost Dielectric Isolation Method for Integration of vertical Power MOSFET and Lateral driver Devices
64	US6917529	Unregulated DC-DC Converter Having Synchronous Rectification with Efficient Gate Drives
65	US6958592	Adaptive Delay Control Circuit For Switched Mode Power Supply
66	US6815614	Arrangement for Co-Planar Vertical Surface Mounting of Subassemblies on a Mother Board
67	US7027305	Arrangement for Surface Mounting of Subassemblies on a Mother Board
68	US6984156	Connector for Surface Mounting Subassemblies Vertically on a Mother Board and Assemblies Comprising the Same
69	US7102898	Isolated Drive Circuitry Used in Switch-Mode Power Converters
70	US7253506	Micro Lead Frame Package
71	US7026664	DC-DC Converter Implemented in a Land Grid Array Package
72	US6788036	Method and System for Current Sharing Among a Plurality of Power Modules
73	US7080265	Voltage Set Point Control Scheme
74	US6933709	Digital Control System and Method for Switched Mode Power Supply
75	US6850046	Digital Signal Processor Architecture Optimized for Controlling Switched Mode Power Supply
76	US6741099	Transistor Driver Circuit
77	US7373527	System and Method for Interleaving Power-of-Load Regulators
78	US6833691	System and Method Providing Digital Pulse Width Modulation
79	US7049798	System and method for communicating with a voltage regulator
80	D494538	Power Supply Housing
81	US6452796	Low Flow Impedance Voltage Guard for Electronic Assemblies
82	US6828762	Inductor Current Sensing in Isolated Switching Regulators and Related Methods
83	US6711039	Method and Apparatus for Controlling Synchronous Rectifiers of a Power Converter
84	US6567279	Simple and Efficient Isolated Switching Regulator For Fast Transient Loads
85	US6560105	Composite Low Flow Impedance Voltage Guard for Electronic Assemblies
86	US6804125	Isolated drive circuitry used in switch-mode power converters
87	US6838898	Apparatus and Method for Testing High Current Circuit Assemblies
88	US6503088	I-Channel Surface-Mount Connector with Extended Flanges

	<b>App./Patent/Pub . No.</b>	<b>Title</b>
89	US6792667	Fully Automatic Process for Magnetic Circuit Assembly
90	US6501193	Power Converter Having Regulated Dual Outputs
91	US6301139	Self-Driven Synchronous Rectifier Circuit for Non-Optimal Reset Secondary Voltage
92	US6370047	Dual Input Range Power Supply Using Two Series or Parallel Connected Converter Sections with Automatic Power
93	US6692269	Circuit Module with Universal Connectivity
94	US6370051	Forward Converter Circuit Having Reduced Switching Losses
95	US6304463	Single-Ended Forward Converters with Quasi-Optimal Resetting for Synchronous Rectification
96	US6141224	Single Ended Forwarded DC-to-DC Converter Providing Enhanced Resetting for Synchronous Rectification
97	US6204745	Continuous Multi-Turn Coils
98	US5986899	Single Ended Forwarded DC-to-DC Converter Providing Enhanced Resetting for Synchronous Rectification
99	US5812387	Multi-Deck Power Converter Module
100	US5636107	DC-DC Converters