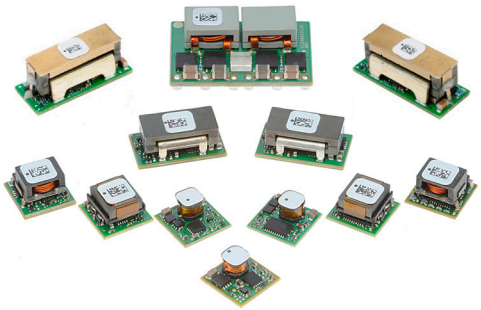
GE
Critical Power

Integrated Power Solutions for DSPs & FPGAs



GE Energy POL power converters provide small, efficient, and reliable power electronics modules for FPGAs and DSPs. Our high-density POL (point-of-load) DC-DC converters provide a cost-effective solution to power silicon that includes DSP Core and I/O requirements ranging from 0.45 to 5.5V.

Our standards-based, modular solutions deliver a lower total system cost; provide three times better transient response, have a smaller footprint; and are easier to implement than discrete solutions.

- Accelerate time to market
- Reduce risk of design errors
- Scalable offering from 2 – 225 Amps (5 x 50A)
- Digital and analog design flexibility
- Leading power density
- Pre-characterized electrical and thermal performance
- International safety approvals
- EZ-Sequence™ feature for sequencing management
- Tunable Loop™ feature reduces discrete components (external input and output capacitor requirements)

Leading Density at Low Cost

GE Tunable Loop™ products ensure low cost implementation of board mounted power in standards-based DOSA footprints.

Product Family	Output Models	Communication	Input Voltage	Output Voltage	Output Current	Efficiency	Dimensions
PicoDLynx™	PDT003	Digital PMBus™	3.0-14.4V	0.45-5.5V	3A	94%	12.2 x 12.2 x 6.25 mm
PicoDLynx™	PDT006	Digital PMBus™	3.0-14.4V	0.45-5.5V	6A	94%	12.2 x 12.2 x 7.25 mm
SlimLynx™	UNDT/ULDT006	Digital PMBus™	3.0-14.4V	0.45-5.50V	6A	95%	20.3 x 11.4 x 3 mm
PicoDLynx™	PDT012	Digital PMBus™	3.0-14.4V	0.45-5.50V	12A	96%	12.2 x 12.2 x 8.5 mm
Dual MicroDLynx™	UDXS0606	Digital PMBus™	4.5-14.4V	0.51-5.50V	2 x 6A	97%	20.3 x 11.4 x 8.5 mm
Dual MicroDLynx™	UDXS1212	Digital PMBus™	4.5-14.4V	0.51-5.50V	2 x 12A	97%	20.3 x 11.4 x 8.5 mm
SlimLynx™	UNDT/ULDT012	Digital PMBus™	3.0-14.4V	0.45-5.50V	12A	95%	20.3 x 11.4 x 3 mm
MicroDLynx™	UDT020	Digital PMBus™	3.0-14.4V	0.45-5.50V	20A	96%	20.3 x 11.4 x 8.5 mm
MegaDLynx™	MDT040	Digital PMBus™	4.5-14.4V	0.45 to 2.0V	40A	94%	33 x 13.5 x 10.9 mm
GigaDLynx™	GDT080	Digital PMBus™	4.5-14.4V	0.45 to 2.0V	80A	93%	33 x 22.9 x 12..7 mm
PicoDLynx™	PNVX002	Analog	3.0-14V	0.6-5.5V	2A	97%	12.2 x 12.2 X 4.5 mm
PicoDLynx™	PVX003	Analog	3.0-14.4V	0.6-5.5V	3A	94%	12.2 x 12.2 X 6.25 mm
PicoDLynx™	PVX006	Analog	3.0-14.4V	0.6-5.5V	6A	94%	12.2 x 12.2 X 7.25 mm
SlimLynx™	UNVT/ULVT006	Analog	3.0-14.4V	0.6-5.50V	6A	95%	20.3 x 11.4 x 3 mm
PicoDLynx™	PVX012	Analog	3.0-14.4V	0.60-5.5V	12A	96%	12.2 x 12.2 X 8.5 mm
Dual MicroDLynx™	UVXS0606	Analog	4.5-14.4V	0.51-5.50V	2 x 6A	97%	20.3 x 11.4 x 8.5 mm
Dual MicroDLynx™	UVXS1212	Analog	4.5-14.4V	0.51-5.50V	2 x 12A	97%	20.3 x 11.4 x 8.5 mm
SlimLynx™	UNVT012/ULVT012	Analog	3.0-14.4V	0.6-5.50V	12A	95%	20.3 x 11.4 x 3 mm
MicroDLynx™	UVT020	Analog	3.0-14.4V	0.60-5.5V	20A	96%	20.3 x 11.4 x 8.5 mm
MegaDLynx™	MVT040	Analog	4.5-14.4V	0.6 -2.0V	40A	94%	33 x 13.5 x 10.9 mm
PicoTLynx™	APXS002	Analog	3.0-14.0V	0.60-5.50V	2A	96%	12.2 x 12.2 x 6.25 mm
MegaTLynx™	APTS030	Analog	6.0 – 14.0V	0.8V - 2.75V	30A	96%	33 x 13.5 x 10 mm
GigaTLynx™	APTS050	Analog	4.5-14.0V	0.60-2.0V	50A	95%	33 x 22.9 x 10 mm

Xilinx Power Requirement by Part Number

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Always refer to manufacturer's specification for correct and up-to-date power information.

Zynq™-7000 - Core and I/O Voltage: Module Output 0.87V to 3.47V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Artix™ 7 - Core and I/O Voltage: Module Output 0.87V to 3.47V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Kintex™ Ultrascale - Core and I/O Voltage: Module Output 0.9V to 1.8V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Kintex™ 7 - Core and I/O Voltage: Module Output 0.87V to 3.4V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Virtex® 7 - Core and I/O Voltage: Module Output 0.9V to 3.3V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Virtex® 6 - Core Voltage: Module Output 0.9V to 2.5V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Virtex® 5 - Core and Aux Voltage: Module Output 1.0V to 2.5V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Xilinx Power Requirement by Part Number

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Virtex® 5 - I/O Voltage: Module Output 1.14V to 3.45V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Spartan® 6 Series - Core Voltage: Module Output 1.0V to 2.5V

Input V	0 to 2 Amp	0 to 3 Amp	3 to 6 Amp	6/6 to 12/12 Amp	12 to 20 Amp	20 to 30 Amps	30 to 40 Amps (2Vo max)	40 to 80A(2Vo max)
3-14/14.4V	APXS002A0X-SRZ	PDT/PVX003A0X3-SRZ	PDT/PVX006A0X3-SRZ	PDT/PVX012A0X3-SRZ UL/UNDT006, UL/UNVT006	UDT/UVT020A0X3-SRZ UL/UNDT012, UL/UNVT012		MDT/MVT040A0X3-SRZ*[1]	
4.5-14/14.4V				UD/UVXS0606#	UD/UVXS1212#			APTS050A0X3-SRPHZ*[1] / GDT080A0X3-SRHZ*
6-14V						APTS030A0X3-SRPHZ		

Notes: * These modules can only deliver a max of 2Vout
Dual Output modules

[1] Output currents above 80A can be achieved by paralleling these modules. See specification for details.
All parts are non-isolated buck regulators. As such, Vin must exceed programmed Vout . See individual specifications for details.

Digital Power Insight (DPI)™

Set of Tools to interact with GE PMBus™ enabled DC-DC power modules

- Easy to use software running on Windows PC
- Use with GE USB-to-I²C translator to communicate with modules
- Multiple tools with graphical or command line type interfaces
- Rich set of functions, including setup and configuring of modules, control and read back of module data

The Digital Power InsightTM (DPI) software suite along with GE's latest Digital Point-of-Load (POL) modules and Digital Bus Converters allows customers to communicate with the modules via the PMBus interface without writing any software. With a set of three tools (command line interface based DPI-CLI, a simple, fixed-format graphical user interface DPI-GUI and the full-featured, multi-window ProGUI), the user has a range of user interfaces to match their development and testing needs. The table below provides a quick summary of the features and capabilities of the three tools.

Features	DPI-CLI	DPI-GUI	DPI-ProGUI
Find all modules connected to I²C bus	•	Up to 6	•
Query and adjust individual module parameters	•	•	•
Query and adjust small group of modules (≤ 6)	•	•	•
Query and adjust large group of modules (7-64)	•		•
Continuous polling of modules to collect and display data	•	•	•
Store recorded data in a file	•		•
Plot Waveforms of module data			•
Creating and Storage of Module Configuration		•	•
Scripting Capability	•		•

The DPI Software Tool Set is distributed as a zip file that can be downloaded from a link on the GE website. http://www.geindustrial.com/tools-and-calculators

imagination at work

GE
Critical Power

601 Shiloh Road, Plano, TX 75074
+1 877 546 3243 (toll-free in North America)
+1 972 244 9288 (direct number)
info.criticalpower@ge.com
GECriticalPower.com

24/7 Technical Support
pe.techsupport@ge.com

FPGA_XILINX, Rev. 12/14