



Power Conversion Products

For Avionics, Military, Space, and
Other High Reliability Applications



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Space Series Power

Fully qualified on DLA SMDs, our space DC-DC converters are tested, proven, and ready for the rigors of your LEO, MEO, GEO, or deep space mission.

Compliances and Certifications:

- Products available qualified to MIL-PRF-38534 Class H and Class K
- Compliant to MIL-HDBK-1547/Aerospace TOR component level screening
- VPT's Radiation Hardness Assurance (RHA) Plan certified by DLA to MIL-PRF-38534 Appendix G
- MIL-PRF-38534 element evaluated components
- MIL-STD-704A input voltage requirements
- MIL-PRF-38534 Class H and Class K facility manufacturing
- ISO-9001
- MIL-STD-883 environmental screening
- MIL-STD-461 C-F when used with a VPT EMI filter
- Available on DLA SMDs

Features:

- DC-DC converters guaranteed to 100 krad (Si) total dose including HDR & ELDRS and 85 MeV-cm²/mg SEE
- Key components RLAT tested at both HDR and ELDRS
- High efficiencies
- Circuit protection features
- Fault-tolerant magnetic feedback circuits
- Components selected from NASA database of recommended rad hard devices
- No optocouplers
- Standard industry output voltages including
 - Single outputs: typically 3.3, 5, 5.2, 12, 15V
 - Dual outputs: typically ±5, ±12, ±15V

[SPACE DC-DC CONVERTERS, ISOLATED]

Radiation Hardened - SVR Series of DC-DC Converters. 28Vin nominal. -55 °C to +125 °C.

Power Level [W]	Model Series	Outputs	Total Dose w/ ELDRS	Single Event Effects [SEE]	Developed for TOR Compliance	DLA SMD Family #
6	SVRSA2800S/D	Single and Dual	100 krad(Si) & ELDRS	85MeV-cm ² /mg	Yes	5962R15217, 5962R15218
15	SVRHF2800S/D	Single and Dual	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	Yes	5962R13231, 5962R13232
40	SVRTR2800S/D	Single and Dual	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	Yes	5962R13209, 5962R13210
100	SVRFL2800S/D	Single and Dual	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	Yes	5962R13233, 5962R13234

Radiation Tolerant - SVL Series of DC-DC Converters. -55 °C to +125 °C.

40	SVLTR2800S/D	Single and Dual	60 krad(Si) & ELDRS	85MeV-cm ² /mg	N/A	In Process
120	SVLFL2800S/D	Single and Dual	60 krad(Si) & ELDRS	85MeV-cm ² /mg	N/A	In Process

Radiation Tolerant - SV Series of DC-DC Converters. -55 °C to +125 °C.

6	SVSA2800S/D	Single and Dual	60 krad(Si) & ELDRS	44 MeV-cm ² /mg	N/A	5962P11219, 5962P11216
20	SVHF2800S/D	Single and Dual	60 krad(Si) & ELDRS	44 MeV-cm ² /mg	N/A	5962P11218, 5962P11215
40	SVTR2800S/D	Single and Dual	60 krad(Si) & ELDRS	44 MeV-cm ² /mg	N/A	5962P11220, 5962P11223
120	SVFL2800S/D	Single and Dual	60 krad(Si) & ELDRS	44 MeV-cm ² /mg	N/A	5962P11217, 5962P11214

[EMI FILTERS FOR SPACE]

Radiation Immune - SVR Series of EMI Filters for use with SVR Series DC-DC Converters. -55 °C to +125 °C.

Output Current [A]	Model Series	Input DC Voltage [V]	Total Dose	Single Event Effects [SEE]	Developed for TOR Compliance	DLA SMD Family #
2	SVRMH28	0-50V	Immune	Immune	Yes	13011
4	SVRMC28	0-50V	Immune	Immune	Yes	13010
10	SVRME28	0-50V	Immune	Immune	Yes	13009

Radiation Immune - DV Series of EMI Filters for use with SV and SVL Series DC-DC Converters. -55 °C to +125 °C.

1	DVMA28	0-50V	Immune	Immune	N/A	06004
2	DVMH28	0-50V	Immune	Immune	N/A	06005
4	DVMC28	0-50V	Immune	Immune	N/A	06023
15	DVME28	0-50V	Immune	Immune	N/A	07004



[SPACE POINT OF LOAD DC-DC CONVERTERS, NON-ISOLATED]

Radiation Hardened - SVR and SV Series of Point of Load DC-DC Converters. -55 °C to +125 °C.

Output Current (A)	Model Series	Outputs	Input DC Voltage (V)	Total Dose w/ ELDRS	Single Event Effects [SEE]	Developed for TOR Compliance	DLA SMD Family #
6	SVPL3R306SG	0.8 to 3.8	3.1 to 5.5	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	5962R17215
8	SVRGA0508S	0.8 to 3.4	3.6 to 7.0	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	Yes	5962R13217
9	SVPL1209SG	0.8 to 5.0	3.1 to 13.2	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	5962R17232
10	SVGA0510S	0.8 to 3.4	3.5 to 7.0	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	5962R12219
12	SVPL3R312SG	0.8 to 3.8	3.1 to 5.5	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	5962R17217
15	SVGA0515S	0.8 to 3.4	3.5 to 7.0	100 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	5962R12219

Radiation Tolerant - SV Series of Point of Load DC-DC Converters. -55 °C to +125 °C.

10	SVFA0510S	0.8 to 3.4	3.5 to 7.0	20 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	In Process
15	SVFA0515S	0.8 to 3.4	3.5 to 7.0	20 krad(Si) & ELDRS	85 MeV-cm ² /mg	N/A	In Process

[INRUSH CURRENT LIMITERS]

Control the inrush current of your DC-DC converters, EMI filters, and discrete input capacitors. -55 °C to +125 °C.

Output Current (A)	Model Series	Outputs	DLA Drawing
5.5	SVCL285R5	Single	In Process
11	SVCL2811S	Single	In Process

Military and Avionics Series Power



Save board space, weight, heat, and cost when you create an efficient power system using our isolated DC-DC converters plus our family of non-isolated, synchronous, buck regulated point of load DC-DC converters.

Compliances and Certifications:

- Products available qualified to MIL-PRF-38534 Class H and Class K
- MIL-PRF-38534 Class H and Class K certified manufacturing facility
- MIL-STD-704A input voltage requirements
- DO-160, ISO-9001
- MIL-STD-883 environmental screening
- MIL-STD-461 C-F when used with a VPT EMI filter
- DLA SMDs available for most modules

Features:

- 100% hermetic
- No optocouplers
- High efficiencies
- 28Vin nominal unless otherwise noted
- A host of circuit protection features
- Fault-tolerant magnetic feedback circuits
- Thick-film hybrid technology
- Available in industry standard output voltages including
 - Single outputs: typically 3.3, 5, 5.2, 12, 15V
 - Dual outputs: typically ± 5 , ± 12 , ± 15 V
 - Triple outputs: typically 3.3/ ± 12 , 3.3/ ± 15 , 5/ ± 12 , 5/ ± 15 V

[ISOLATED DC-DC CONVERTERS]

Isolated, thick-film hybrid converters for flight critical applications with extreme temperature requirements. -55 °C to +125 °C.

Power Level (W)	Model Series	Outputs	DLA SMD Family #
1.5	DVCH2800S/D	Single and Dual	5962-09242, 5962-09243
6	DVSA2800S/D	Single and Dual	5962-03241, 5962-03242
12.5	DVSB2800D	Dual	5962-08207
12.5	DVGF+2800T	Triple	5962-08205
15	DVHV2800S/D	Single and Dual	5962-11226, 5962-11227
15	DVAB2800D	Dual	5962-14232
15	DVHF+2800T	Triple	5962-08206
20	DVHF2800S/D	Single and Dual	5962-03243, 5962-03244
25	DVWR2800T	Triple	5962-16203
30	DVTR2800T	Triple	5962-16202
40	DVTR2800S/D	Single and Dual	5962-11224, 5962-11225
120	DVFL2800S/D	Single and Dual	5962-07243, 5962-07244

[NON-ISOLATED POINT OF LOAD DC-DC CONVERTERS]

Combine one isolated DC-DC converter with any of these POL converters for reduced size, weight, heat and cost. 5Vin nominal. -55 °C to +125 °C.

Output Current (A)	Model Series	Outputs	DLA SMDs
3	DVPL0503S	Single	5962-13243
5	DVPL0505S	Single	5962-09241
10	DVPL0510S	Single	5962-13219
20	DVPL0520S	Single	5962-13244

[EMI FILTERS]

Reduce noise even further with VPT's companion EMI filters and transient suppression modules. -55 °C to +125 °C.

Output Current (A)	Model Series	Outputs	DLA Drawing
0.8	DVMSA28	Single	11016
1	DVMA28	Single	06004
2	DVMH28	Single	06005
2	DV704A	Single	Contact VPT
4	DVMC28	Single	06023
7	DVMD28	Single	06024
15	DVME28	Single	07004

[ISOLATED DC-DC CONVERTERS WITH INTEGRAL EMI FILTERS]

Isolated, hybrid DC-DC power converters include EMI filtering in one small package. -55 °C to +125 °C.

Power Level (W)	Model Series	Outputs	EMI Filter	DLA SMD Family #
10	DVEHF2800T	Triple	Included	Contact VPT
40	DVETR2800S/D	Single and Dual	Included	5962-15208, 5962-15209

[ISOLATED HIGH EFFICIENCY DC-DC CONVERTERS]

Isolated, thick-film hybrid converters for extremely efficient performance. -55 °C to +125 °C.

Power Level (W)	Model Series	Outputs	EMI Filter	DLA SMD Family #
50	DVHE2800S	Single	DVMC28	5962-15230

[INRUSH CURRENT LIMITER]

Control the inrush current of your DC-DC converters, EMI filters, and discrete input capacitors. -55 °C to +125 °C.

Output Current (A)	Model Series	Outputs	DLA Drawing
200	DVCL28	Single	5962-13240

[THERMAL PADS]

Ensure low thermal resistance, fill air gaps, and provide excellent thermal performance.

Output Current (A)	Model Series	Outputs	DLA Drawing
N/A	TP-001 to 011	N/A	N/A

Hi-Rel COTS Series Power



VPT's COTS DC-DC converters deliver the high reliability needed for cost-conscious programs, with electrical designs based on VPT's proven military products.

Compliances and Certifications:

- MIL-STD-1275 A-E (when used with VPTPCM-12 for VPT Series)
- MIL-STD-704A input voltage requirements
- MIL-STD-461 C-F when used with a VPT EMI filter
- DO-160, ISO-9001
- DEF STAN 59-411
- Testing to JESD22, MIL-STD-810, MIL-STD-883
- J-STD-001, ISO-9001, IPC-A-610 manufacturing

Note: Compliances and certifications vary by product series. Please see specific product datasheets for more information.

Features:

- Technology based on proven military heritage designs
- Cost effective
- High efficiencies
- 28Vin nominal unless otherwise noted
- Full performance over wide temperature ranges of -55 °C to +105 °C, no power derating necessary
- Host of circuit protection features
- Six-sided metal packages for maximum EMI shielding
- V-SHIELD® epoxy encapsulation standard on VXR series models and available as an option on many VPT series models
- Full military standard input voltage ranges
- Available in industry standard output voltages including
 - Single outputs: typically 3.3, 5, 12, 15V
 - Dual outputs: typically ± 5 , ± 12 , ± 15 V
 - Triple outputs: typically 5/ ± 12 , 5/ ± 15 V

[DC-DC CONVERTERS]

Metal packaging for extreme temperatures in non-flight-critical applications. -55 °C to +100 °C.

Power Level (W)	Model Series	Outputs
5	VPT5-2800S/D	Single and Dual
15	VPT15-2800S/D	Single and Dual
30	VPT30-2800S/D/T	Single, Dual, Triple
100	VPT100+2800S/D	Single and Dual
250	VPT250-2800S	Single

Epoxy encapsulated packaging, extended input voltage range converters. -55 °C to +105 °C.

Power Level (W)	Model Series	Outputs
7	VXR7-2800S/D	Single and Dual
15	VXR15-2800S/D	Single and Dual
30	VXR30-2800S/D	Single and Dual
100	VXR100-2800S/D	Single and Dual

Metal package with full internal potting for rugged duty. DV200-270 is 270Vin nominal. -55 °C to +100 °C.

Power Level (W)	Model Series	Outputs
30	DVST-2800T	Triple
175	DV200-270S/D	Single and Dual
200	DV200-2800S/D	Single and Dual

[EMI FILTERS]

Reduce noise with companion EMI filters. Six-sided metal packaging. -55 °C to +100 °C.

Output Current (A)	Model Series	Outputs
1	VPTF1-28	Single
3	VPTF3-28	Single
10	VPTF10-28	Single
20	VPTF20-28	Single

Noise reducing EMI filters with epoxy encapsulated packaging. -55 °C to +105 °C.

Output Current (A)	Model Series	Outputs
2	VXRF2-28	Single
5	VXRF5-28	Single
10	VXRF10-28	Single
20	VXRF20-28	Single

[FRONT END MODULES]

EMI Filters and Transient suppression combination modules. -55 °C to +100 °C.

Output Current (A)	Model Series	Outputs
10	VPTc10-28	Single
10	VPTi10-28	Single
14	DVMN-28	Single

Power Conditioning Module (VPTPCM) and Bus Converter Module 270V to 28V (VPTHVM). -55 °C to +100 °C.

Output Power (W)	Model Series	Outputs
120	VPTPCM-12	Single
200	VPTHVM-270	Single

[VME POWER SUPPLY]

Single slot 6U, configurable VME power supply delivered quickly.

Power Level (W)	Model Series	Outputs
500	VPTVME-28	Up to 5, configurable

Industrial Level and High Temp Series Power



VHR Series DC-DC Converters and EMI Filters

The VHR series of industrial level DC-DC converters and companion EMI filters leverage decades of VPT's proven heritage in military and aerospace electronics and are designed for non-flight-critical solutions in military, avionics, unmanned systems as well as manufacturing equipment and controls. These products are available off-the-shelf and ready for fast delivery.

Compliances:

- MIL-STD-704
- MIL-STD-461C-F and EN55022 when VHR converters are used with VHR EMI filters
- J-STD-001, ISO-9001, IPC-A-610 Class 3 manufacturing

Packaging:

- Rugged six-sided metal package
- Lightweight

Features:

- Wide input voltage range: 15 to 50 V
- Wide temperature range: -40 °C to +100 °C
- Isolated converter topology
- Fixed frequency operation
- Soft start
- Magnetic feedback, no optoisolators
- Inhibit function
- Current-limit protection
- Low input and output ripple

[VHR SERIES DC-DC CONVERTERS]

Power Level (W)	VHR Series Models	Input Range (V)	Output (V)
5	VHR5-2800S/D	15 – 50	Single: 3.3, 5, 12, 15 Dual: ±5, ±12, ±15
15	VHR15-2800S/D	15 – 50	Single: 3.3, 5, 12, 15 Dual: ±5, ±12, ±15
30	VHR30-2800S/D VHR30-2800T	15 – 50 9 – 80	Single: 3.3, 5, 12, 15 Dual: ±5, ±12, ±15 Triple: 3.3, 5, 12, 15
100	VHR100+2800S/D	16 – 40	Single: 3.3, 5, 7, 12, 15, 28 Dual: ±12, ±15

[VHR SERIES EMI FILTERS]

Max Output Current (A)	VHR Series Models	Input DC Voltage	For Use With
5	VHRF1-28	0 – 50	VHR5-2800S/D VHR15-2800S/D
15	VHRF3-28	0 – 50	VHR5-2800S/D VHR15-2800S/D VHR30-2800S/D/T
30	VHRF10-28	0 – 50	VHR30-2800T VHR100+2800S/D
100	VHRF20-28	0 – 50	VHR100+2800S/D

HTD Series DC-DC Converters

Building on a proven hybrid converter design heritage, the HTD Series of high temperature DC-DC converters is specifically designed for harsh and extreme temperature environments including downhole oil and gas, MWD/LWD and wireline logging tools, aircraft engine electronics and other industrial applications.

Compliances:

- ISO 9001
- MIL-PRF-38534 Class H and Class K certified facility
- Class 100K microelectronics assembly cleanroom

Features:

- -55°C to +185°C operation guaranteed
- 1.5 Watts output power
- Wide input voltage ranges:
- Dual output voltages:
- Soft start
- Short circuit protection
- Low output noise
- Custom versions available

[HTD SERIES ISOLATED DC-DC CONVERTERS]

Power Level (W)	HTD Series Models	Temperature	Input (VDC)	Output (VDC)
1.2	HTD1R5B-1200D	155 °C	6 – 20	±5, ±12

[HTD SERIES NON-ISOLATED DC-DC CONVERTERS]

Power Level (W)	HTD Series Models	Temperature	Input (VDC)	Output (VDC)
1.5	HTD1R5N-1200D	185 °C	6 – 20	±5, ±12
1.5	HTD1R5N-2800D	185 °C	14 – 60	±5, ±12



 **MIL-PRF-38534**
Class H & Class K

DFARS
★★★★★
COMPLIANT

ISO
9001:2015
CERTIFIED

Whatever Your Mission, Get it Accomplished with VPT.

Innovative technology. Fast delivery. Affordable solutions. Certified quality.

Leading Power Products for When the Mission is Critical

VPT®, Inc. is a global leader in providing power conversion solutions for use in avionics, military, space, and other high reliability applications. VPT offers DC-DC converters, EMI filters, accessory power products, and custom engineering services for the rapid development of critical power systems.

Every day, leading organizations including NASA, Lockheed Martin, Boeing, BAE, Honeywell, GE, Thales, the U.S. Air Force, and many more power critical systems with quality solutions from VPT.

VPT is part of the HEICO Electronic Technologies Group (NYSE: HEI.A, NYSE: HEI).

Immediate Availability

No need to wait weeks, months, or even years for your power conversion products.

In most cases, products are available for immediate shipment from stock.

Contact VPT for a quotation to fulfill your system requirements.

Designed and Qualified for Extreme Environments

VPT products undergo rigid quality testing procedures in qualified facilities to ensure optimal performance through the toughest environments.

- MIL-PRF-38534 Class H and Class K Site Certification
- QML-38534 Qualified Manufacturers List
- QPD SIS-38534 Qualified Products Database to Class E, H, & K
- MIL-STD-883 Lab Suitable, MIL-PRF-38534, FSC 5962
- ISO-9001 Certification
- Most military and space grade modules on Defense Logistics Agency Standard Microcircuit Drawings
- Radiation Hardness Assurance Certified to MIL-PRF-38534, Appendix G

Screened for Rugged Environments

Each product line offers several grades of environmental screening. Tests performed may include:

- Non-destructive bond pull
- Internal visual
- Temperature cycling
- Constant acceleration
- PIND
- Stabilization bake
- Pre burn-in electrical
- Burn-in
- 100% final electrical
- Hermeticity
- Radiography
- External visual

Save Board Space, Weight, and Cost

VPT's continual investment in advancing power conversion technology delivers many advantages across our product lines:

- Maximum reliability thick-film hybrid technology
- Innovative rugged hi-rel COTS technology
- Full operation over the specified temperature ranges
- Excellent EMI performance
- High power densities
- Lightweight

Proven Heritage

A partial list of programs supported by VPT:

Commercial Avionics Aircraft and Systems

- Airbus A350/A380/A400M
- ARJ-21 Commercial Jet
- Bell Helicopter
- Boeing 737/757/777/787
- Dassault Commercial Jet
- Embraer Commercial Jet
- Gulfstream G250
- Lear Jet
- Mitsubishi Regional Jet
- Sukhoy Superjet 100

Military Avionics Aircraft and Systems

- A330 Tanker
- Apache Helicopter
- ASELPOD
- AWACS
- B-52 Bomber
- Blackhawk Helicopter
- C-17
- C130J
- Canadian CP141 Patrol Aircraft
- Euro Hawk UAV
- Eurofighter Typhoon
- F-15/16/18/22/35
- Global Hawk UAV
- Hummingbird UAV
- OH-1 Helicopter
- P-1
- Predator UAV
- Tornado Fighter
- WIN-T
- Watchkeeper UAV

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Marine System Solutions

- ARCI Sub Sonar
- JMMS
- Ohio Class Subs
- PKX
- S-80 Submarine
- Type 23 Frigate
- Virginia Class Submarine

Ground Vehicles and Systems

- Abrams Tank
- Bradley Fighting Vehicle
- Crusader Attack Vehicle
- Gen Main Battle Tank
- Husky Mine Vehicle
- Stryker Tank
- Titan Armored Personnel Carrier

Weapons Systems

- Advanced Targeting Pod
- ATACMS
- ATGM
- GMLRS
- Hellfire Missile
- IRIS
- M299 Launcher
- MALD
- MEADS
- Meteor Missile
- PAC-3/3J

- Rolling Airframe Missile
- Stinger Missile
- THAAD
- Trident

Space Solutions

- Atlas V
- Antares Rocket
- Canadian SCISAT
- Cygnus Spacecraft
- Delta Rocket
- Dragon Capsule
- Dubai SAT II
- ExoMars
- Falcon 9
- GLONASS
- GPS IIF/IIR-M/III
- International Space Station
- Mercury Messenger
- New Shepard Reusable Rocket
- Polar N0x
- Orion Spacecraft
- OSIRIS-REx
- Pluto New Horizons
- Venus Express
- WorldView-3



See www.vptpower.com for a comprehensive programs list.