15 kW DC to DC Converter

GE's 1063000G1 is a silicon carbide (SiC) based High Efficiency DC to DC Converter. The design introduces GE's 1200V SiC MOSFETs packaged in our advanced liquid cooled power modules. Advanced Planar Magnetic technologies were developed by GE to compliment the SiC devices, yielding high power density and reduced weight. Advanced thermal management technologies are employed to enable reliable performance

Features:

- Best-in-Class SiC MOSFETs / Modules
- High Efficiency
- High Power Density (16W/cu.in)
- Reduced weight versus Silicon
- High Reliability
- MIL-PRF-GCS600AVDC Input
- Overcurrent & Overvoltage Protection.
- EMI – MIL-STD-461F
- Power Good, Remote ON/OFF, Temperature BIT Status
- Derating – NAVMAT-P-4855-1
- MTBF > 50,000 Hours, GM at 71°C
- AEC-Q101 SiC device qualification

Physical: (See ICD 1063001)

Weight: 17 kg (36 lbs.)
Dimensions: 305mm x 318mm x 152mm (12" x 12.5" x 6.0")
Connector: Input: MIL-C-38999; Output: A-00303-000-S00701
Mounting: 6mm bolt (¼") (4x)

Environmental:

Operating Temperature: -45°C to +71°C
Coolant: 60/40 EGW; -45°C to +71°C; 12 lpm
Temperature Shock: MIL-STD-810E, Method 503.3
Shock: MIL-STD-810E, Method 516.4, Procedure I 25G, 25 msec., half-sine 40G, 9 msec., sawtooth
Vibration: MIL-STD-810E Method 514.4, Procedure I for Combined Road March, Tactical & Plume Effects
Humidity: MIL-STD-810E, Method 507, Procedure III

Electrical I/O:

J1: +305V Pins A, B, C
J1: -305V Pins D, E, F
J3: Output Return (-)
J4: Output (+)

J2-A: 28Vdc Control
J2-B: 28Vdc Control Return
J2-C: Output Enable
J2-D: Output Enable Return

J2-E: HV Bus Reset
J2-F: HV Bus Reset Return
J2-G: HV Enable
J2-H: HV Enable Return

Part Number	Input Voltage	Output Voltage	Output Current (A)	Regulation (line, load, temp)	Ripple & Noise (Vpk-pk)	Output Power (W)
1063000G1	475 – 725	28	535	3.0%	1%	15,000
1063000G2	180 - 325	28	357	3.0%	1%	10,000

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