

The module converts 28VDC to an isolated/Regulated 12V /12.5A output delivering 150W. Demonstrated compliance to EMI standards of MIL-STD-461G without external EMI filter. This Open frame DC-DC Power Module provides the ultimate overall solution in performance, protection and reliability for airborne, shipboard and vehicle applications.

DC-DC POWER MODULE FEATURES:

- **Conduction cooling through enclosure**
- **Input: 18-32VDC per MIL-STD-704F**
- **One - Output Voltage, 150W**
- **Low output ripple and noise; 50mVp-pk @ Full Load**
- **Efficiency: 90% typical; Nominal input at Full Load**
- **EMI: Embedded EMI Filter designed to meet MIL-STD-461G compliance**
- **Meets CE101 and CE102 per MIL-STD-461F/G W/O EXTERNAL EMI FILTER**
(Performance data available upon request. CE101 & CE102 vs Load and Input Freq
- **Meets Input voltage transient and surge protection per MIL-STD-704F**
- **Operating temperature : -40 to +85°C**
- **Over-current, and Over-temperature protection with auto-recovery**
- **Isolation: Input to Chassis, Input to Outputs, Output to Chassis >20MEG Ohm**
- **Output Fault Tolerant MOSFET Diode OR'G**
- **Current Sharing capable using voltage slope programming**
- **Input reverse Polarity Protection**



Input	
Input Voltage	18-32VDC
Input Current	10 Amps @ 18VDC @ PO = 150W
Efficiency	87% Typical @ 28VDC @ 150W

Outputs		
Total Output Power	12V	LOAD CONFIG #1: 150W; (η = 85.0 – 88.0%)
Ripple / Noise	Less than 120mVpk-pk all outputs (20MHz BW)	
Line Regulation	±1%	
Load Regulation	12V +/-5% due to voltage slope programming	
Turn on Overshoot	≤ 0.5%	

- **Protection**
 - **Over Voltage**
 - All outputs are over voltage protected by both I2C System management and analog monitoring
 - **Over Current / Short Circuit**
 - Individual over current protection 105 – 110% of max load and short circuit protection with automatic recovery. Both I2C System management and analog monitoring
 - **Over Temperature**
 - Internal heat sink monitor disables output if unit temperature rises above 100°C
- **External Controls and interfaces**
 - **Discrete I/O**
 - ENABLE
 - POWER GOOD
 - POWER WARNING

Electromagnetic interference / Electromagnetic Compatibility	
Conducted Emissions	MIL-STD-461E CE102
Conducted Susceptibility	MIL-STD-461E CS101, CS102, CS114, CS115, CS116
Radiated Emissions	MIL-STD-461E RE102

- **Environmental**
 - **Single Slot Conduction Cooled Model: -40 to +85°C**
 - **Storage**
 - -55 to +125°C
 - **Humidity**
 - 0 to 95% Non-Condensing
 - **Operating Acceleration**
 - 3g, in any direction
 - **Operating Vibration**
 - Sinusoidal vibration 0.05g cont. 10 to 2000 Hz

Isolation	
Input to Output	>20Meg Ohm
Input to Chassis	>20Meg Ohm
Output to Chassis	>20Meg Ohm

- **Mechanical**
 - **Size and Weight: Request 1452OTL100 for Guidance**
 - **I/O Connector**
 - SAMTEC Connector part number MPTC-02-24-02-24-02-01-L-RA-SD
 - Mating Connector MPSC-02-24-7.70-01-L-V

Signal Functions

ENABLE

Active low signal disables output voltage.

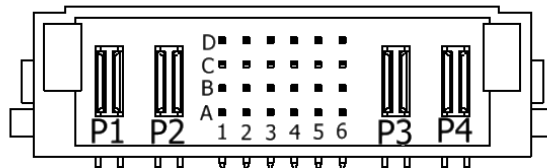
POWER
GOOD

Open collector pulls low when output is out of regulation bandwidth. 10mA sink capability

POWER
WARNING

3.3V high signal is produced when output voltage has been disabled and imminent of falling. Typical warning is 4msec with no load and 200usec with maximum load.

PIN	FUNCTION	DESCRIPTION
P1	28V	+28V INPUT POWER
P2	28V_RTN	+28V INPUT POWER RETURN
P3	+12V	+12V OUTPUT
P4	+12V_RTN	+12V OUTPUT RETURN
A1	OT_WARNING	OT_WARNING
A2	ENABLE	ENABLE
A3	INTERLOCK	INTERLOCK
A4	NC	NC
A5	NC	NC
A6	CHASSIS	CHASSIS GROUND
B1	OT_FAULT	OT_FAULT
B2	GAP0	GAP0
B3	+12V_RTN	+12V_RTN
B4	NC	NC
B5	NC	NC
B6	CHASSIS	CHASSIS GROUND
C1	POWER_GOOD	POWER_GOOD
C2	GAP1	GAP1
C3	+12V_RTN	+12V_RTN
C4	PWARN	PWARN
C5	NC	NC
C6	CHASSIS	CHASSIS GROUND
D1	+12V_RTN	+12V_RTN
D2	SCL_OUT	SCL_OUT
D3	SDA_OUT	SDA_OUT
D4	DGND_100	DGND_100
D5	NC	NC
D6	CHASSIS	CHASSIS GROUND



MECHANICAL LAYOUT

