

M167 SERIES

Compact, High Density

High Efficiency, Single Output

AC / DC Converters

Up to 1600W



<p>Applications Military (Airborne, ground-fix, shipboard), Ruggedized, Telecom, Industrial</p>											
<p>Special Features</p> <ul style="list-style-type: none"> • High efficiency • Wide input range • Input / Output isolation • Limited Inrush Current • <u>Fixed</u> switching frequency • <u>EMI</u> filters included • Indefinite short circuit protection with auto-recovery • Over-voltage shutdown with auto-recovery • Over temperature shutdown with auto-recovery 											
<p>Electrical Specifications</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <p><u>AC Input Range:</u> 115V/400 Hz (320-520Hz), 3-phase per MIL-STD-704A/D</p> </td> <td style="width: 33%; vertical-align: top;"> <p><u>DC Output:</u> Voltage: 3.3V to 50V Current: Up to 55A Power: Up to 1.6kW</p> </td> <td style="width: 33%; vertical-align: top;"> <p><u>Isolation:</u> 500V between Input and Output 500V between Input and Case 100V between Output and Case</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p><u>Line/Load regulation:</u> Less than 1% (no load to full load, -40°C to +71°C).</p> </td> <td style="vertical-align: top;"> <p><u>Efficiency:</u> 85% - minimum (full load, room temperature)</p> </td> <td style="vertical-align: top;"> <p><u>EMC:</u> Designed to meet MIL-STD-461F at 45A: CE102, CS101, CS114, CS115, CS106, RE101, RE102, RS101, RS103</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p><u>Ripple and Noise:</u> 100÷150mV_{p-p}, typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly.</p> </td> <td style="vertical-align: top;"> <p><u>Turn on Transient</u> No Voltage over shoot during power on.</p> </td> <td></td> </tr> </table>			<p><u>AC Input Range:</u> 115V/400 Hz (320-520Hz), 3-phase per MIL-STD-704A/D</p>	<p><u>DC Output:</u> Voltage: 3.3V to 50V Current: Up to 55A Power: Up to 1.6kW</p>	<p><u>Isolation:</u> 500V between Input and Output 500V between Input and Case 100V between Output and Case</p>	<p><u>Line/Load regulation:</u> Less than 1% (no load to full load, -40°C to +71°C).</p>	<p><u>Efficiency:</u> 85% - minimum (full load, room temperature)</p>	<p><u>EMC:</u> Designed to meet MIL-STD-461F at 45A: CE102, CS101, CS114, CS115, CS106, RE101, RE102, RS101, RS103</p>	<p><u>Ripple and Noise:</u> 100÷150mV_{p-p}, typical (max. 1%) without external capacitance. When connected to system capacitance ripple drops significantly.</p>	<p><u>Turn on Transient</u> No Voltage over shoot during power on.</p>	
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* Thresholds and protections can be modified / removed – please consult factory.

Environmental		
Designed to meet MIL-STD-810E		
Temperature:	Altitude:	Salt Fog:
Operating: -40°C to +71°C (at base plate)	Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft.	Method 509-4
Storage: -55°C to +125°C	Operational	
Humidity:	Vibration and Shock:	Reliability
Method 507.4 - Up to 95%.	Shock - Sow-tooth, 20g peak, 11mS.	Min 50,000 hours, calculated per MIL-STD-217F at +70°C base plate, Ground fixed.
	Vibration - method 514.6, proc. I. and method 519.6, proc. I	Note: at 100°C base plate MTBF will be lower

Environmental Stress Screening (ESS)

Including random vibration and thermal cycles is also available. **Please consult factory for details.**

Pin Assignment (Input Connector)

Pin No.	Function	Pin No.	Function
1	CHASSIS	9	PHASE A
2	PHASE A	10	PHASE A
3	N.C.	11	N.C.
4	PHASE B	12	PHASE B
5	PHASE B	13	N.C.
6	N.C.	14	PHASE C
7	PHASE C	15	PHASE C
8	N.C.		

Pin Assignment (Output Connector)

Pin No.	Function	Pin No.	Function	Pin No.	Function	Pin No.	Function
1	- OUT	12	- OUT	23	+ OUT	34	+ OUT
2	INHIBIT	13	- OUT	24	- OUT	35	+ OUT
3	+ OUT	14	- OUT	25	- OUT	36	+ OUT
4	+ OUT	15	- OUT	26	- OUT	37	+ OUT
5	+ OUT	16	+ OUT	27	- OUT	38	+ OUT
6	+ OUT	17	+ OUT	28	- OUT	39	- OUT
7	+ OUT	18	+ OUT	29	- OUT	40	- OUT
8	+ OUT	19	+ OUT	30	- OUT	41	- OUT
9	- OUT	20	+ OUT	31	-INHIBIT	42	- OUT
10	- OUT	21	+ OUT	32	+ OUT	43	- OUT
11	- OUT	22	+ OUT	33	+ OUT	44	- OUT

* All output parallel pins should be connected together for best performance.

Functions and Signals

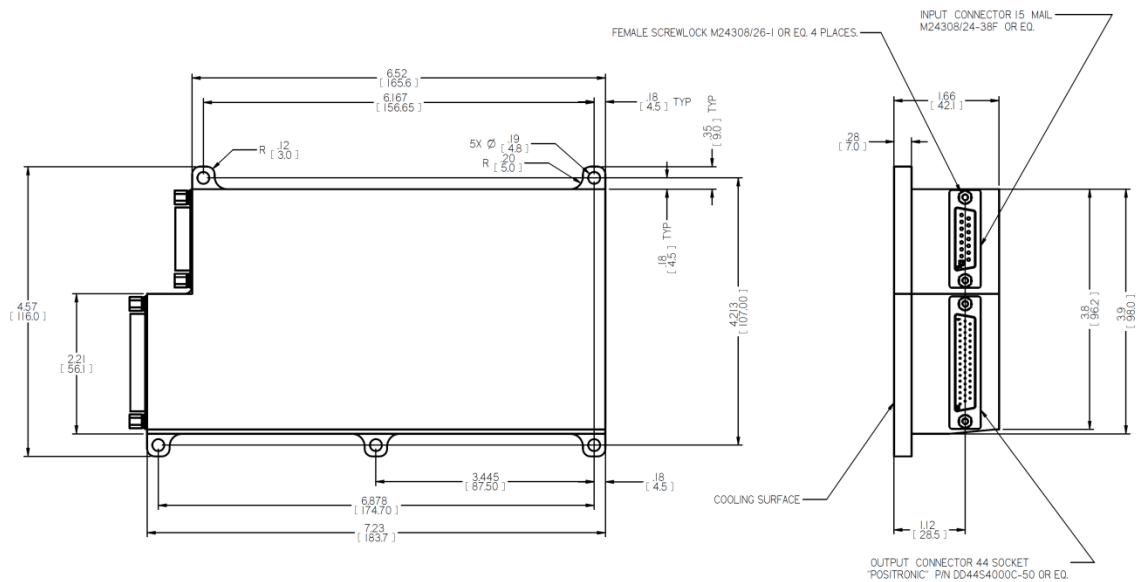
INHIBIT signal

The INHIBIT signal is used to turn the power supply ON and OFF.

OPEN – will turn on the power supply.

SHORT – between pin 2 and pin 31 will turn off the power supply.

Outline Drawing



Notes

1. Dimensions are in Inches [mm]
2. Tolerance is:
.XX ±.02 IN
.XXX ±.01 IN
3. Weight: 1,456gr (preliminary)
4. Parasolid 3D module is available

* Specifications are subject to change without prior notice by the manufacturer