

Model 3738/3739 EMI Filter

For MIL-STD-461C CE03, CS01 Requirements



MDI model 3738 and 3739 hermetic power line EMI filters compliment MDI 3700 Series DC-DC converters without internal filters to meet the latest MIL-STD-461C CE03, CS01 and MIL-STD-461D-G CE102, CS101 test method requirements.

In applications where low reflected noise currents are needed to meet MIL-STD-461, power line filtering provides attenuation to reduce common mode (line to ground) and differential mode (line to line) currents. MDI's 3738 and 3739 provide such filtration in both modes to provide compliance whether measured in dBuA or dBuV test modes. The resulting low insertion loss design achieves the necessary attenuation for CE03 or CE102 compliance while minimizing the possibility of excessive input filter impedance mismatch that might otherwise result in DC-DC converter loop instability.

The filters are rated as completely compatible with all normal, abnormal, emergency, over/under voltage and transient conditions listed in MIL-STD-704 A-F. A single filter can serve several DC-DC converters up to the rated maximums and

two or more 3738/3739 filters may be used in parallel to serve multiple DC-DC converters sharing the same input bus.

Please see our application notes for insertion loss curves and full technical details. Several grade and screening levels are available to suit any reliability requirement

Features/Benefits

- Compliant with MIL-STD-461C, CE03 and CS01.
- Compliant with MIL-STD-461D-G, CE102 and CS101
- Common and differential mode filtering for low reflected input power line ripple currents
- Operates over all normal, abnormal, transient and OV conditions listed in relevant MIL-STD-704 systems applications
- Compact 3x1.5x.375 inch (LWH) package; rugged full hermetic construction
- Compliments all MDI Model 3700 Series DC-DC converters

Models 3738 and 3739 Power Line EMI Filters Specifications								
Model No.	Nominal Input Voltage (VDC)	Input Voltage Range (VDC)	Absolute Maximum Input Voltage (VDC)	Input Transient Rating (V)	Compatible With	Rated Current (A)	Maximum Power Dissipation at Rated Current (W)	Typical Attenuation (dB at 200kHz)
3738	28	0 - 50	100	50	MIL-STD-704A-F 28VDC Systems	15	15	47
3739	270	0 - 290	500	400	MIL-STD-704A-F 28VDC Systems	5	15	50

Specifications

Environment:

Temperature range, storage non-operating (Tcase): -60°C to +150°C

Shock: MIL-STD-810, Method 516.5 Procedure III (50Gs 11mS pulse, all axis)

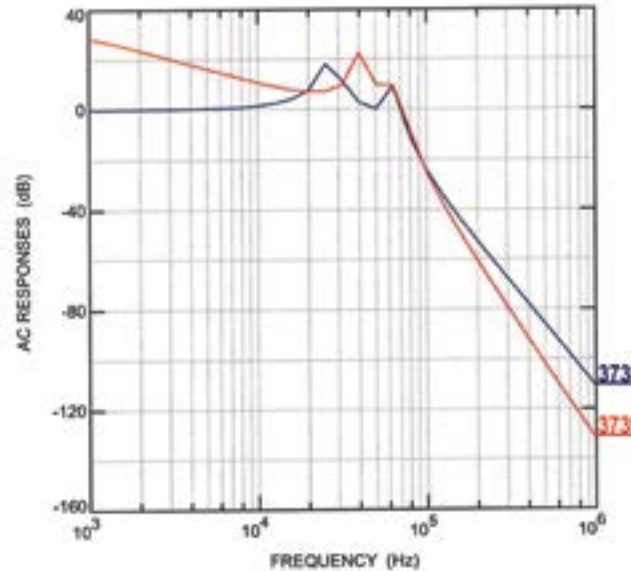
Random Vibration: MIL-STD-883, Method 2026, Test Condition 2H (32.3G, all axis)

Acceleration: MIL-STD-883, Method 2001, Test Condition A1, Y1 direction, 500Gs

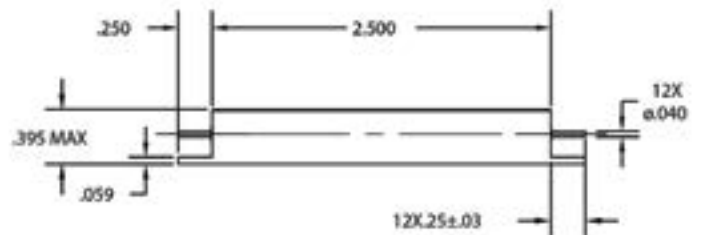
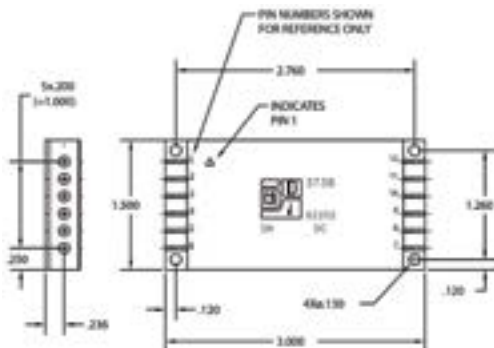
Grade: E -55°C to +125°C, derates Pout to zero at 135°C

Grades: M, I -55°C to +85°C, derate Pout to zero at 115°C

Weight: 110 grams typical



Pin #	Designation
1	+10 - 70VDC @ 15A Input
2	+10 - 70VDC @ 15A Input
3	+10 - 70VDC @ 15A Input
4	Input Return
5	Input Return
6	Input Return
7	Output Return
8	Output Return
9	Output Return
10	+10 - 70VDC @ 15A Output
11	+10 - 70VDC @ 15A Output
12	+10 - 70VDC @ 15A Output



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