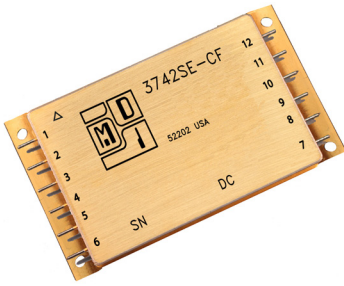


# Model 3742 EMI Filter

## For MIL-STD-461 and SSP30237 CE and CS Requirements



MDI model 3742 hermetic power line EMI filters compliment MDI 3700 Series DC-DC converters without internal filters to meet the latest MIL-STD-461C CE03, CS01, MIL-STD-461D-G CE102, CS101 and SSP30237 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 3742 provides 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 SSP30237. A single filter can serve several DC-DC converters up to the rated maximums and two or more 3742 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
- Compliant with SSP30237 requirements
- 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 systems applications
- Compact 3x1.5x.375 inch (LWH) package; rugged full hermetic construction
- Compliments all MDI Model 3700 Series DC-DC converters

### 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

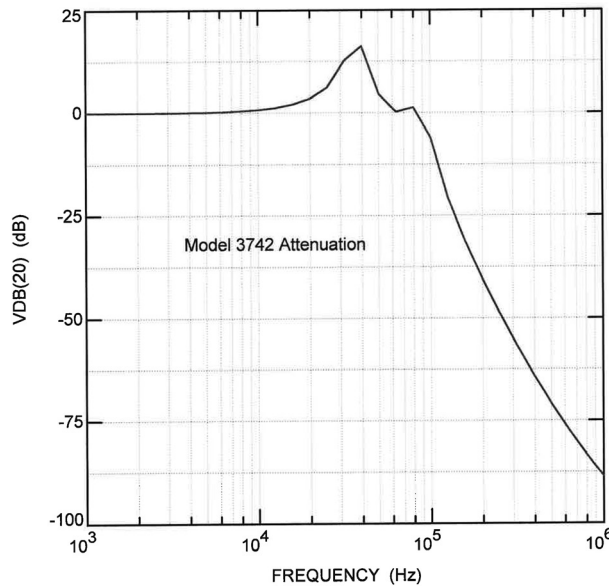
**Grade SE:** -55°C to +125°C, derates Pout to zero at 135°C

**Grade S:** -55°C to +85°C, derate Pout to zero at 115°C

**Grade EU:** -55°C to +85°C, derate Pout to zero at 115°C

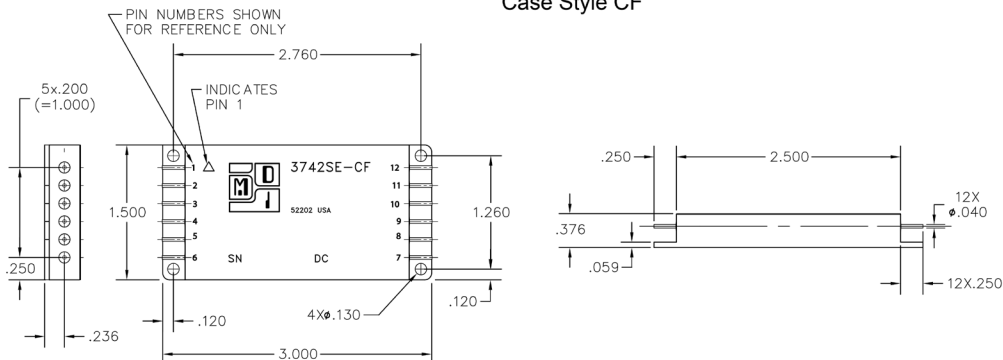
**Weight:** 110 grams typical

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 300kHz)
3742	70 - 120	0 - 200	200	300	70 - 120 VDC	10	15	63



PIN #	DESIGNATION
1	+70-120VDC INPUT
2	+70-120VDC INPUT
3	+70-120VDC INPUT
4	+70-120VDC INPUT RETURN
5	+70-120VDC INPUT RETURN
6	+70-120VDC INPUT RETURN
7	+70-120VDC OUTPUT RETURN
8	+70-120VDC OUTPUT RETURN
9	+70-120VDC OUTPUT RETURN
10	+70-120VDC OUTPUT
11	+70-120VDC OUTPUT
12	+70-120VDC OUTPUT

### Case Style CF



**Modular Devices, Inc.**  
Power Conversion for Space and Military/Aerospace

One Roned Road • Shirley, NY 11967 • E-mail sales@mdipower.com • Fax: 631.345.3106 • Tel 631.345.3100

Revised 2023-07-17