

High Current DC Feedthrough Filter 300 Amp – High Reliability



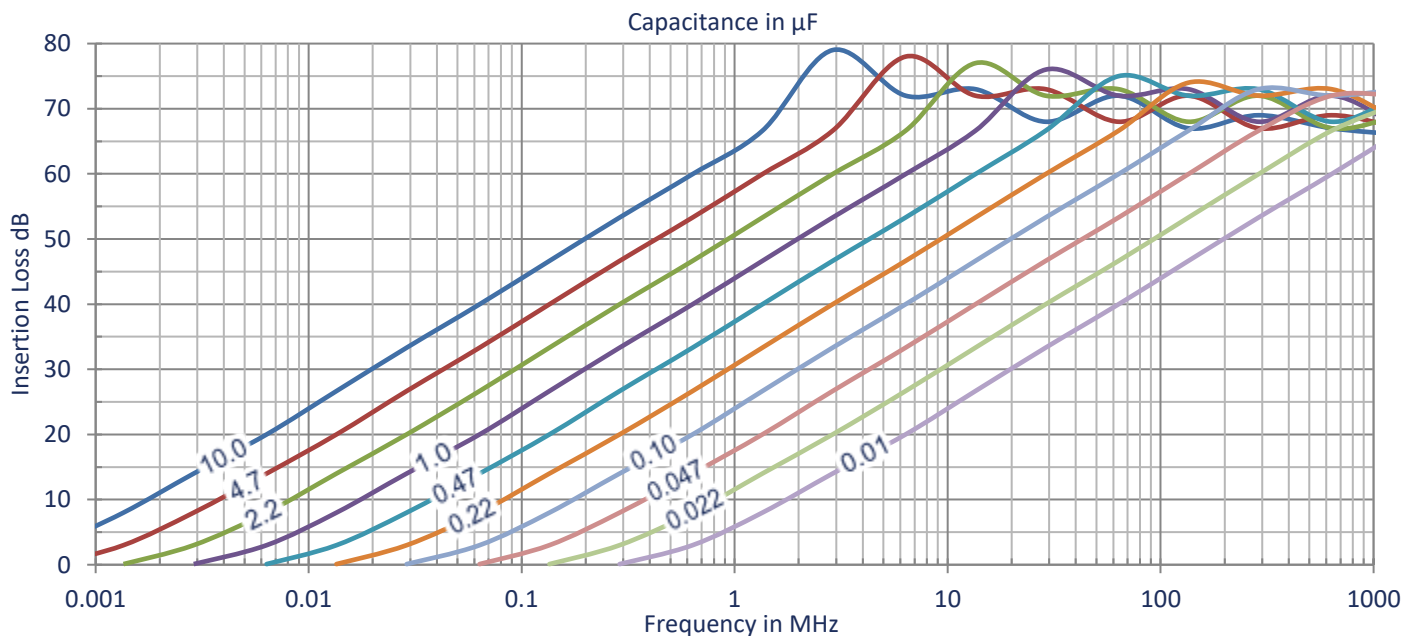
- ✓ Excellent EMI filtering
- ✓ Compact and Lightweight
- ✓ “C” Type Filter
- ✓ Bolt-in style
- ✓ High Shock & Vibration
- ✓ O-Ring Bulkhead Seal
- ✓ High Reliability per MIL-PRF-49467
- ✓ MIL-PRF-55681, MIL-PRF-123, SCD available
- ✓ CDR and JAN Reliability levels available

Voltage & Capacitance

300A		Capacitance μF																					
		.01	.015	.022	.033	.047	.068	.1	.15	.22	.33	.47	.68	1.0	1.5	2.2	3.3	4.7	6.8	10	15	22	
Rated Voltage	Vdc	100						+															
		200							+														
		500								+													
		1000									+												
Rated Voltage	Vac	120			+			+															
		250				+																	

+ Standard Values

Insertion Loss



High Reliability

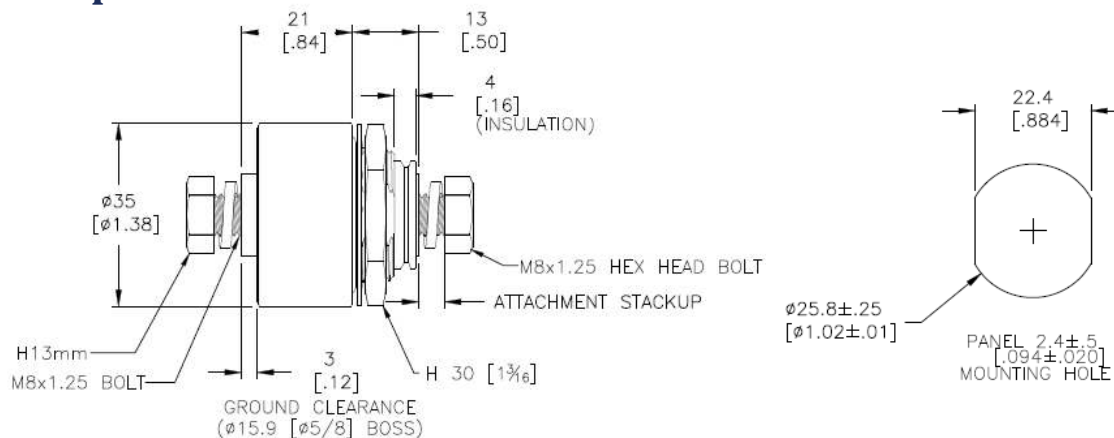
MIL-C-49467 Group A (Custom units to MIL-C-55681, MIL-C-123 or customer SCD available)

Parameter	Value	Specification
Burn In	125°C / Rated Voltage / 96 hours	MIL-STD-202 Method 108A Cond A
Thermal Shock	-55°C to +125°C / 5 cycles	MIL-STD-202 Method 107D / Cond B Modified
Altitude	70,000' (21.3km or 33mm Hg)	
Vibration (high freq)	0.06"DA / 20g _{pk} 10Hz-3kHz	MIL-STD-202 Method 204D / Cond F
Vibration (Random)	11.6g _{rms} 50Hz – 2kHz, 90min	MIL-STD-202 Method 214 / Cond D

Specifications (Units to MIL-C-49467, MIL-C-55681, MIL-C-123 or customer SCD available in E-Series)

Parameter	Value	Description / Specification / Method
Current	300 Amperes	50, 55, 140, 175, 250, & 400 Amps available
Insertion Loss	See Performance Curve on page 1	Per Capacitor Value
RF (Filtering) Current	10A _{rms}	
Insulation Resistance	100ΩF (100MΩ Maximum) at 25°C	MIL-STD-202 Method 302
Dielectric Withstand Voltage	250% Rated Voltage (50mA 5s)	MIL-STD-202 Method 301
Dissipation Factor	3% Maximum	MIL-STD-202 Method 306
Voltage Drop	19mV	Wire to Wire
Operating Temp	-55°C to +125°C	30A@125°C to 300A@90°C
Temperature Rise	25°C Typical at 300A	
Heat Rise Constant	2.36 to 4.0	C ₁ in formula $\Delta T = C_1 \times W^{0.85}$
Storage Temperature	-55°C to +105°C	
Fungus	Non-Nutrient	MIL-HDBK-454A
Corrosion (metal finish)	5% NaCl / 35°C / 48 hrs	MIL-STD-202 Method 101D / Cond B
Humidity	98%RH 25°C-65°C	MIL-STD-202 Method 106E
Shock	30g – 11ms	MIL-STD-202 Method 213B / Cond A
Terminal Strength	Torque: 200 in-lbs (22Nm) Pull: 200lbs (91kg)	MIL-STD-202 Method 211A / Cond A & E
Reliability(MTBF)	500,000 hrs	MIL-HDBK-217F Cond - N2 A(IF) 70°C 50%V

Mechanical Specifications



Component	Material	Finish
Main Body Parts	Aluminum	Conversion Coating
Center Electrode	Copper Alloy	Nickel
Insulator	FR4 or Nylon	-
Bolts and Washers	Stainless Steel	
Bulkhead Gasket	EPDM	

This specification is for reference only and is subject to change without notice

Mounting

Unit Weight: 0.25lbs (133.4g)



INSTALLATION NOTE:

Always place current-carrying wire lug or busbar directly against the flat electrode face of the HPR300. Do not use any hardware (lockwashers, extra nuts, etc.) between the current-carrying conductor and this flat electrode face.

Installation Torque Recommendations

Electrode Lug Nut Torque: 144 in-lbs (16 N·m)
Mounting Panel Nut Torque: 300 in-lbs (34 N·m)

Part Number

Device	Current	Capacitance	Tolerance	Voltage	Series
HPR	300	XXXX	X	XX	X

Device HPR High Current Feedthrough Filter

Current Current rating in amperes

Capacitance in picofarads, first two digits are significant, last two digits are number of zeros
e.g. 2203 = 22,000pF / 4704 = .47μF

Tolerance Capacitor Code: Z= +80%/-20% (Standard), M= +/-20%, K= +/-10%, J=+/-5%

Voltage Rating Code: 05=50V, 10=100V, 20=200V, 50=500V, 1K=1000V, 1A=120Vac, 2A=240Vac

Series Optional series designator

Example: HPR3001004Z10 = Feedthrough Filter / 300A / 0.10uF / +80%/-20% / 100Vdc

Safety Tips

- ✓ The filter should be mounted in a grounded shielding panel
- ✓ Tighten the electrode nuts to the torque specified
- ✓ Cover exposed electrode nuts
- ✓ Observe temperature, current, & voltage limits
- ✓ Always install lug or busbar directly against center boss/flat