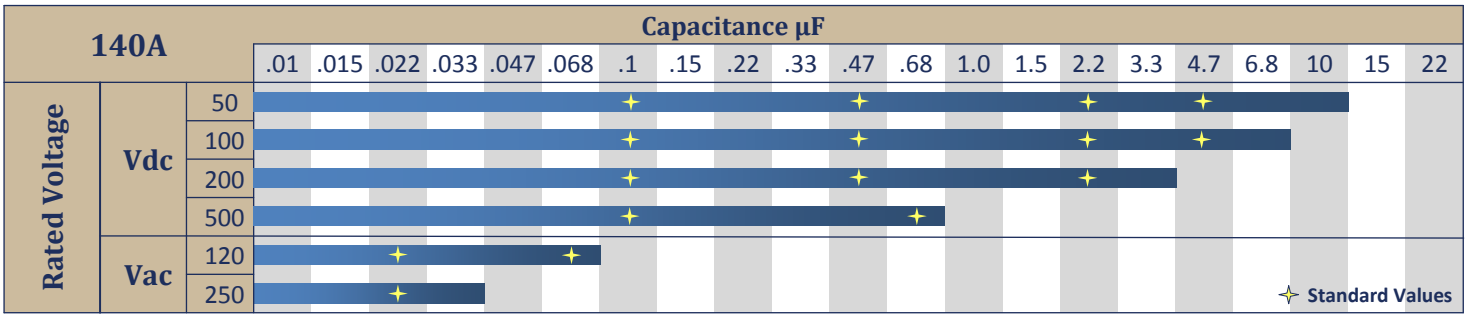
Product Specification
HPR140 E-Series

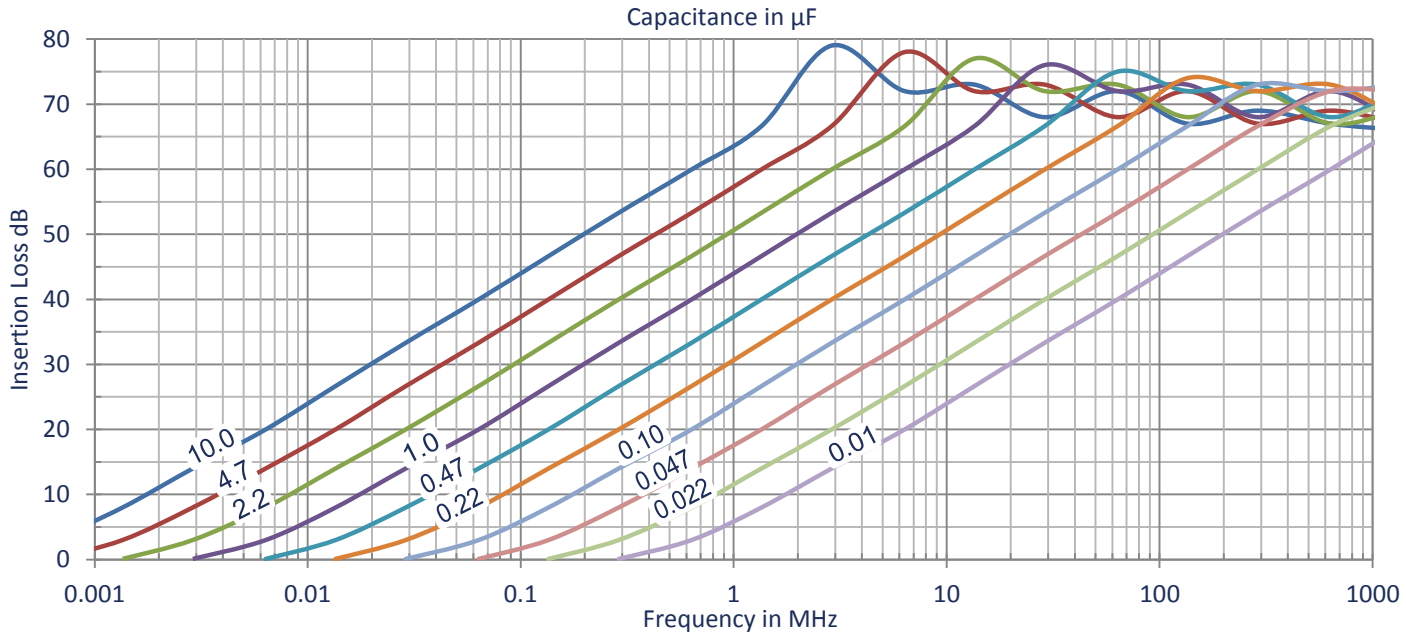
High Current AC/DC Feedthrough Filter
140 Amp — High Reliability

- ✓ Excellent EMI filtering
- ✓ Compact and lightweight
- ✓ "C" Type Filter
- ✓ High Shock & Vibration
- ✓ High Reliability per MIL-PRF-49467
- ✓ MIL-PRF-55681, MIL-PRF-123, SCD available
- ✓ CDR and JAN Reliability levels available

Voltage & Capacitance



Insertion Loss



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Westford, MA 01886
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HPR140 E-Series

High Reliability

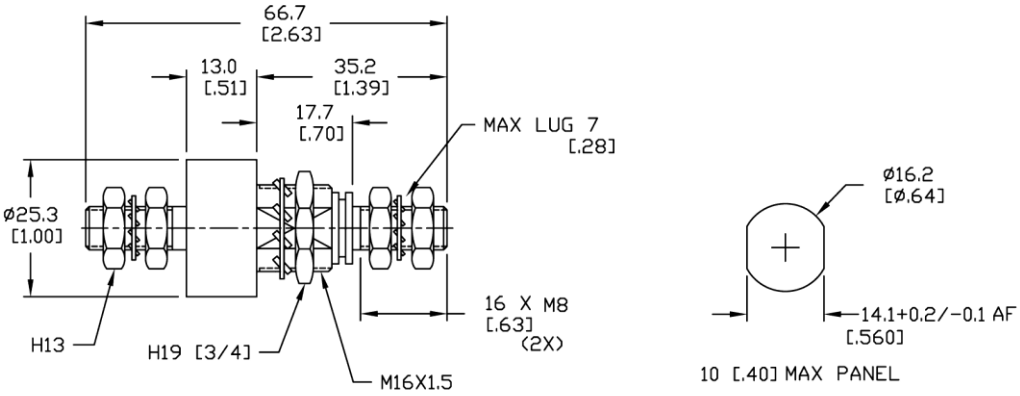
MIL-C-49467 Group A (Custom units to MIL-C-55681, MIL-C-123 or customer SCD available)

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

Parameter	Value	Description / Specification/ Method
Current	140 Amperes	50, 55, 140, 175, 250, & 400 Amps available
Insertion Loss	See Performance Curve on page 1	Per Capacitor Value
RF 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	18mV	Wire to Wire
Operating Temp	-55°C to +125°C	14A@125°C to 140A@105°C
Temperature Rise	22.4°C Typical at 140A	
Heat Rise Constant	5.4 to 10.2	C_1in 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	50g – 11ms	MIL-STD-202 Method 213B / Cond A
Terminal Strength	Torque: 70 in-lbs (8 N·m) Pull: 75lbs (34kg)	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
Metal Parts	Copper Alloy	Nickel
Insulator	FR4 or Nylon	-

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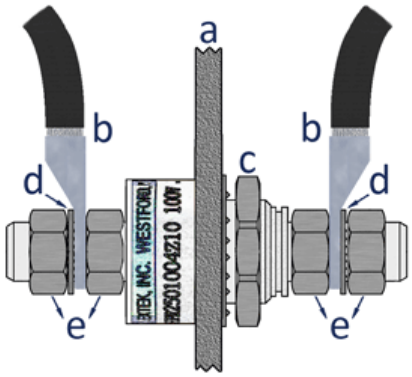
Mounting



a. Mounting Panel
b. Lug / Wire
c. Mounting Nut
d. Lock Washer
e. Electrode Lug Nut

Installation Torque Recommendations

NOTE: Electrode Nuts (e) must be tightened using the Two-Wrench Method…Place an open end wrench on the electrode nut closest to the mounting panel (a) and a calibrated torque wrench on the outer electrode nut on the same side…Tighten nuts against one another.

The "two wrench method" will prevent any torque from developing between the electrode and the HPR body.

Electrode Lug Nut (e) Torque: 70 in-lbs (8 N·m)
Mounting Panel Nut (c)Torque: 100 in-lbs (11 N·m)

Part Number

Device	Current	Capacitance	Tolerance	Voltage	Series
HPR	140	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: HPR1401004Z10E = Feedthrough Filter / 140A / 0.10uF / +80%/-20% / 100Vdc / E-Series

Safety Tips

- ✓ The filter should be mounted in a grounded shielding panel
- ✓ Tighten the electrode nuts to the torque specified with the two wrench method
- ✓ Cover exposed electrode nuts
- ✓ Observe temperature, current, & voltage limits

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