# Product Specification
# HPR300

## High Current DC Feedthrough Filter
## 300 Amp

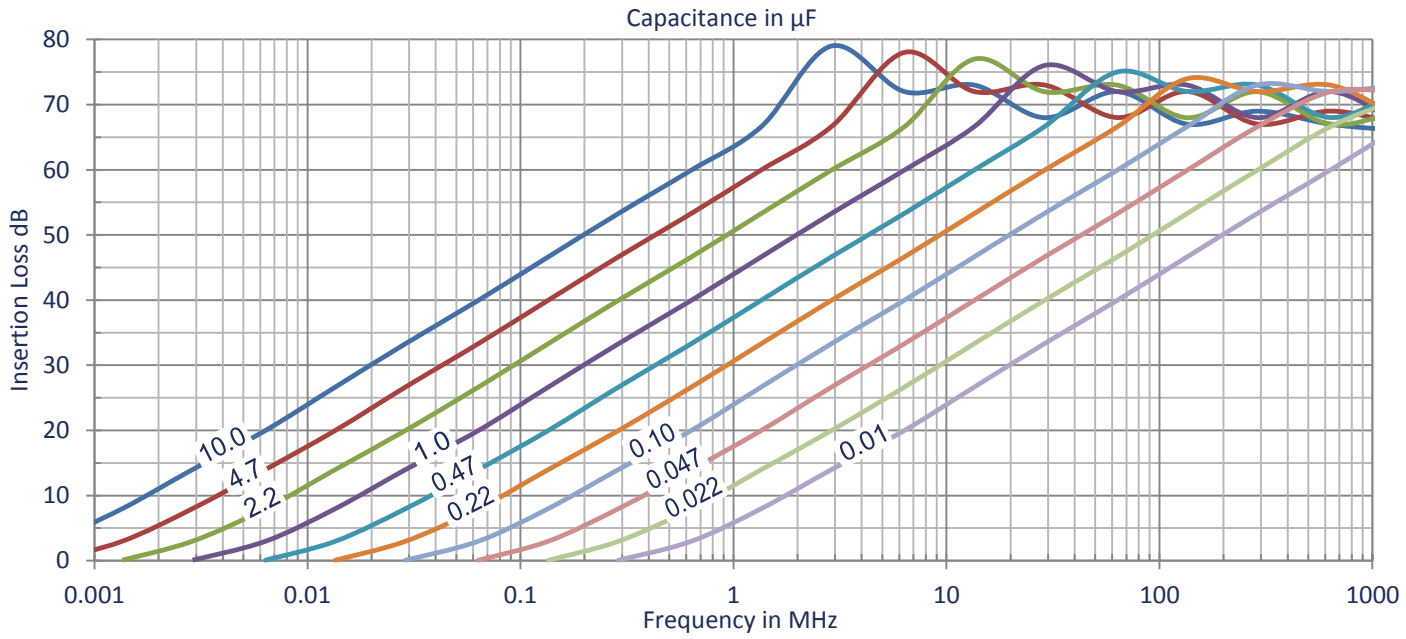

- ✓ Excellent EMI filtering
- ✓ Compact and Lightweight
- ✓ "C" Type Filter
- ✓ Bolt-in style
- ✓ High Shock & Vibration
- ✓ CDR and JAN Reliability levels available
- ✓ O-Ring Bulkhead Seal

## 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 | | | | | | | ✦ | | | | | | | | | | | | | | |
| | Vac | 120 | | | ✦ | | | ✦ | ✦ | | | | | | | | | | | | | | |
| | | 250 | | | ✦ | | | ✦ | | | | | | | | | | | | | | | |

✦ Standard Values

## Insertion Loss




RoHS Compliant 2002/95/EC
nextek.com

*This specification is for reference only and is subject to change without notice*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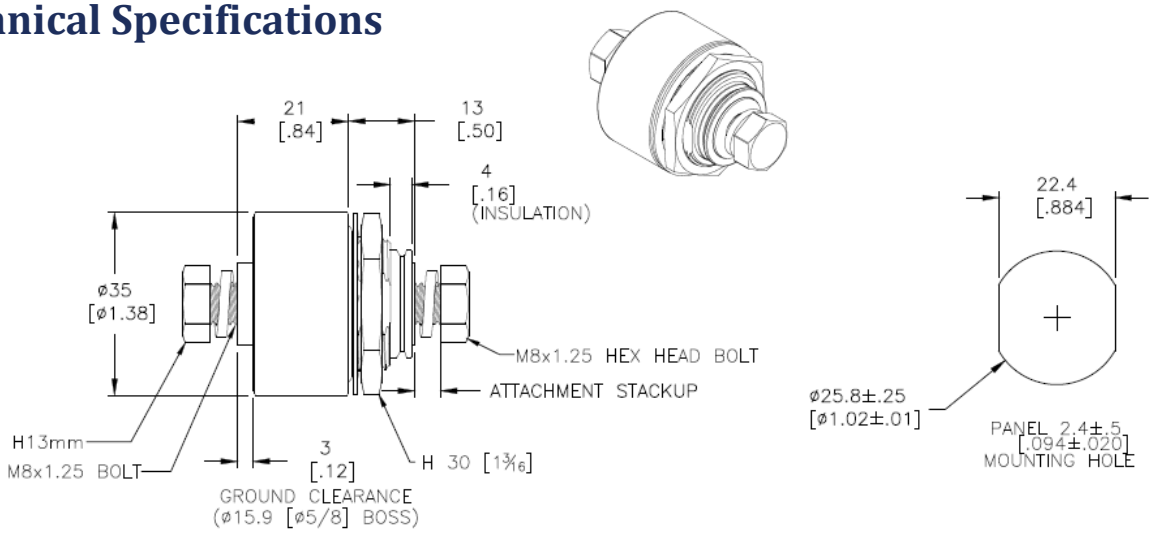
## Specifications (Units to MIL-C-49467, MIL-C-55681, MIL-C-123 or customer SCD available in E-Series)

| 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)<br>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 | |

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## Mounting


**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




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