Space Grade Single Line EMI Filter

Space grade high reliability single line filter offering to support the ever advancing space innovations of today and the future. This EMI filter series will cover a market gap, as there is not a current source listed on the QPL for MIL-PRF-28861 S level product. Our hermetic and resin sealed panel mount products are produced in the USA and a natural extension of Spectrum Control's current MIL-PRF-28861 Class B market leading offering.

Features

- Established B Plus requirements with additional screening beyond MIL-PRF-28861 class B for custom and catalog EMI filters
  - Additional thermal shock cycles
  - Additional voltage conditioning hours
  - Fine leak on hermetic filters
  - Destructive physical analyses
- Impervious to high moisture environments, solvents and severe environmental conditions (hermetic versions)
- Capacitance vs. temperature biased: TCVC "BR" +15/-40% at rated voltage from -55 to +125°C
- Proven experience in space programs, including deep space and scientific missions and satellite communications
- Qualified potting material certified to ASTM E595, para 1.5, TML <1% and CVCM <0.1% (applicable to resin sealed product)

Hermetic Seal

Resin Seal

Applications

- Satellite systems
- Aircraft systems
- Defense systems
- Space ground transmitter receiver controllers
- Space applications
- Launch vehicles
- Ground communication & networks

Certifications

- AS9100
- MIL-STD-790

B Plus Selection Matrix

- Available in the following sizes, voltages, and maximum capacitance
- Maintain existing end product mechanical size and insertion loss performance

Voltage		Hermetic Seal		Resin Seal	Size
DC	AC (400Hz)	Ø410	Ø610	#4-40 - #12-32	
50	-	0.50µF	1.0µF	0.033µF	C_{max}
100	-	0.33µF	1.0µF	0.033µF	
200	130	0.22µF	0. 75µF	0.022µF	
400	240	-	0.33µF	-	

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MIL-PRF-28861 – Group B Inspection (Class B versus B Plus)

Class B PDA	B Plus PDA		Group A 100% testing	Class B	B Plus
10%	10% total cumulative	5% PDA	Thermal shock, -55- +125C	5 cycles	25 cycles
			Voltage Conditioning (Burn in), 2X rated voltage	164 hours	250 hours
			Dielectric Withstanding Voltage, 2.5X rated voltage DC	same	same
			Insulation Resistance, Room & Hot, rated voltage	same	same
			Capacitance	same	same
			Dissipation factor	same	same
			Voltage Drop	same	same
			X-Ray	same	same
			Seal (glass seal)	Gross	Gross & Fine (Helium)
			Outgassing (resin seal only)	n/a	Qualification of Potting
			Group A sample testing	**Class B**	**B Plus**
			Visual/Mechanical	same	same
			Solderability	same	same

Group B Inspections	Class B Glass	B Plus Glass	Class B Resin	B Plus Resin
Group I				
AC voltage drop (when applicable)	X	X	n/a	n/a
Voltage and temperature limits of capacitance	X	X	X	X
Insertion loss (at temperature)	X	X	X	X
Barometric pressure (reduced)	X	X	X	X
Temperature rise	X	X	X	X
Current overload	X	X	X	X
Thermal strength	X	X	X	X
Thermal shock and immersion (when applicable)	X	X	n/a	n/a
Destructive physical analysis	n/a	X	n/a	X
Group II				
Subgroup 1				
Life	X	X	X	X
Subgroup 2				
Resistance to soldering heat	X	X	X	X
Salt spray (corrosion)	X	X	X	X
Radiographic inspection	X	X	X	X
Destructive physical analysis	n/a	X	n/a	X
Subgroup 3				
Resistance to solvents	X	X	X	X
Group III				
Shock (specified pulse)	X	X	X	X
Vibration (high frequency)	X	X	X	X
Random vibration	n/a	X	n/a	X
Thermal shock and moisture resistance (when applicable)	X	X	n/a	n/a
Seal (when applicable)	X	X	n/a	n/a
Radiographic inspection	X	X	X	X
Destructive physical analysis	n/a	X	n/a	X

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