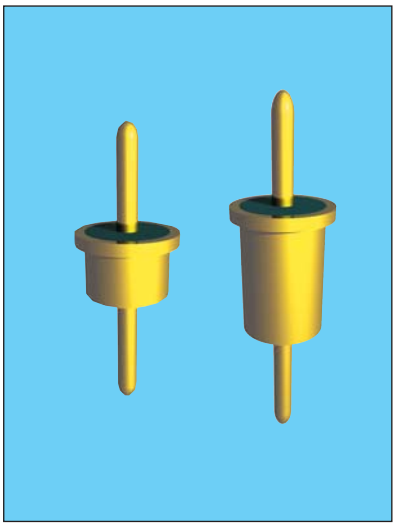
Solder-In Style High Temp EMI Filters

XS/XR Series – .250 Dia. – Circuits Available – C & L



APPLICATIONS

The XS series expands upon the YS offering by providing additional filtering in the HF through MICROWAVE frequency spectrum from 500 KHz up to 10 GHz. The larger diameter of the XS series means that even higher values of capacitance and a rated DC current of 10 Amps are available. Designed to be soldered into a package, bracket or bulkhead (and maintain hermeticity), it is ideal for medium to high impedance circuits where significant amounts of capacitance to ground can be tolerated. In the "L" section version an internal ferrite bead element provides both inductance and series resistance (lossy characteristic) which improves insertion loss and provides superior transient performance.

Alternate lead lengths or special capacitance values may be ordered.

Custom packages or bracket assemblies utilizing this feedthru can be furnished to your specifications.

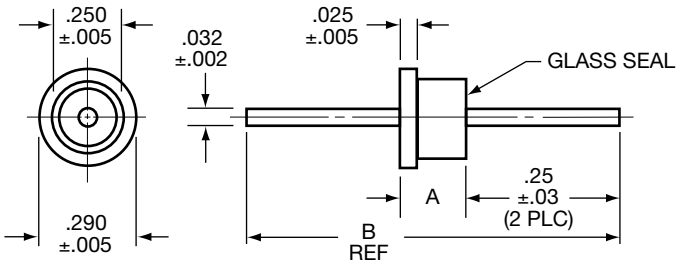
CHARACTERISTICS

- Meets or exceeds the applicable portions of MIL-F-28861/14. See QPL listings.
- High temperature construction withstands 300°C installation temperatures.
- Features rugged monolithic discoidal capacitor construction.
- Glass hermetic seal on one end with epoxy seal on the opposite end.
- High purity gold plating provides excellent solderability or compatibility with thermal and ultrasonic wire bonding.

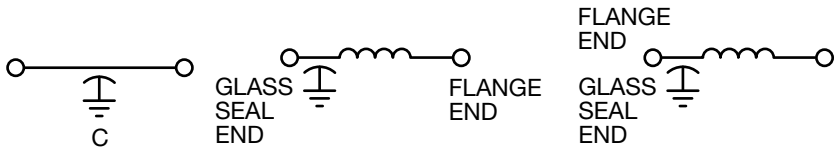
SPECIFICATIONS

1. Plating: Gold standard – Silver available
2. Material:
   Case: Cold rolled steel
   Leads: Alloy 52 steel
3. Operating Temperature Range:
   -55°C to +125°C
4. Insulation Resistance:
   At 25°C: 1,000 megohm-microfarad min., or 100,000 megohms min., whichever is less
   At 125°C: 100 megohm-microfarad min., or 10,000 megohms min., whichever is less
5. Dielectric Withstanding Voltage (DWV):
   R-level designs:
   2.0 times rated DC voltage
   Class B, Class S designs:
   2.5 times rated DC voltage
6. DC Resistance (DCR): .01 ohm, maximum
7. Dissipation Factor (DF): 3% maximum
8. Rated DC Current: 5 Amps, maximum
9. Maximum Installation Temperature: 300°C
10. Supplied with 60/40 solder preform for easy installation
11. Insertion Loss for the "C" and "L" circuits are equivalent due to the saturation characteristic of the ferrite bead element at full rated current. At lower currents the "L" becomes much more effective.

STANDARD CONFIGURATION



CIRCUIT DIAGRAMS



millimeters (inches)

0.05 (.002)	3.81 (.150)
0.13 (.005)	6.35 (.250)
0.64 (.025)	7.37 (.290)
0.8 (.03)	16.51 (.650)
0.81 (.032)	19.05 (.750)

(See Note 4)

Circuit Diagram	Dimensions A ±.005	Dimensions B Ref.
L	.250	.750
C	.150	.650

Notes:

1. Outline drawing shows standard XS configuration. Also available with glass seal at the opposite end, XR reverse configuration.
2. MIL-F-28861/14 configuration A is equivalent to standard XS configuration. B is reverse XR configuration.
3. For XS2 or XR2 L-Section Filters inductor always positioned at epoxy-filled end.
4. Metric equivalent dimensions given for information only.

MIL-F-28861/14 (See Note 2)

Dash No.	Config.
001 through 006	A STD
007 through 012	B REV

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SPECIFICATIONS

					Insertion Loss[2] Per MIL-STD-220, +25°C					
AVX P/N	Current AMP	CKT	DC Voltage	CAP[1] Min.	500 KHz	1 MHz	10 MHz	100 MHz	1000 MHz	10 GHz
XS1C2-503H	5	C	50	.050	9	15	35	44	70	70
XS1C2-753H	5	C	50	.075	12	18	37	46	70	70
XS1C2-104H	5	C	50	.1	14	20	38	48	70	70
XS1C2-154H	5	C	50	.15	17	24	38	50	70	70
XS1C2-254H	5	C	50	.25	21	31	40	55	70	70
XS2C2-503H	5	L	50	.050	9	15	36	50	70	70
XS2C2-753H	5	L	50	.075	12	18	37	51	70	70
XS2C2-104H	5	L	50	.1	14	20	39	52	70	70
XS2C2-154H	5	L	50	.15	17	26	40	53	70	70
XS2C2-254H	5	L	50	.25	21	31	40	56	70	70
XS1A2-503H	5	C	100	.050	9	15	35	44	70	70
XS1A2-753H	5	C	100	.075	12	18	37	46	70	70
XS1A2-104H	5	C	100	.1	14	20	38	48	70	70
XS2A2-503H	5	L	100	.050	9	15	36	50	70	70
XS2A2-753H	5	L	100	.075	12	18	37	51	70	70
XS2A2-104H	5	L	100	.1	14	20	39	52	70	70
XS1B2-153H	5	C	200	.015	–	5	25	40	55	60
XS1B2-223H	5	C	200	.022	2	8	26	40	58	70
XS2B2-153H	5	L	200	.015	–	5	25	45	60	60
XS2B2-223H	5	L	200	.022	2	8	27	45	65	70
XS1L2-103H	5	C	300	.010	–	3	20	35	52	60
XS2L2-103H	5	L	300	.010	–	3	20	38	55	60

[1] Decimal point values indicate capacitance in microfarads.
Non-decimal point values indicate capacitance in picofarads.

[2] Insertion loss limits are based on theoretical values.
Actual measurements may vary due to internal capacitor resonances and other design constraints.

NOTE: AVX Filters' Standard configurations (e.g. ZS, YS, XS, WS) have the hermetic glass seal opposite the flange end. All parts are capable of the reverse configuration with the glass seal at the flange end. All parameters are otherwise identical. The part number changes from "S" to "R" (e.g., standard = ZS1C2-153H; reverse = ZR1C2-153H).

For special multi-unit assemblies see Multi-Component Filter Brackets section.