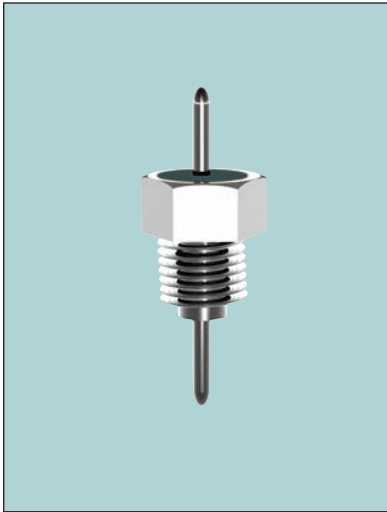


Bolt Style EMI Filters

SP Series – 12-32 Thread - Epoxy Sealed – Circuits Available – C, L, π



APPLICATIONS

The SP series provides increased filtering in the HF through MICROWAVE frequency spectrums from 100 KHz through 10 GHz. The larger hex size means that much higher values of capacitance are available and that a 125 VAC/400 Hz rating is available in certain values. Also designed for mounting in a tapped bulk-head or with the standard nut and lock-washer provided, it is optimum in medium

to low impedance circuits where significant amounts of capacitance to ground can be tolerated. In the “L” and “ π ” section versions an internal ferrite bead element provides both inductance and series resistance (lossy characteristic) which improves the insertion loss rolloff to 40 dB and 60 dB per decade respectively.

Alternate lead diameters or lengths are available both with and without a nailhead.

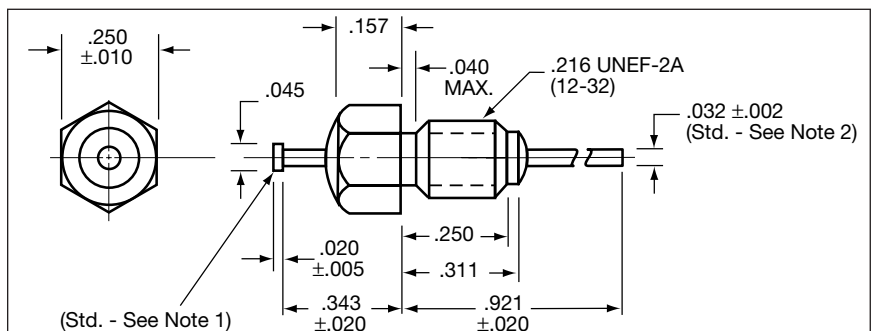
CHARACTERISTICS

- Designed to meet or exceed the applicable portions of MIL-F-28861/9. See QPL listing.
- Conservatively rated for 125 VAC/400 Hz in certain values.
- π design offers steeper insertion loss rolloff.
- Features rugged monolithic discoidal capacitor construction.
- Epoxy seal on both ends.

SPECIFICATIONS

1. Plating: Silver standard – Electro-tin or gold available
2. Material:
 - Case: Cold rolled steel standard, brass available
 - Leads: Half/hard copper
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 (DWW):
 - 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: 10 Amps, maximum
9. Recommended Mounting Torque: 64 oz-in. \pm 4 oz-in.
10. Supplied with mounting nut and lock-washer - See Filter Design Guide Screw and Locking Washer Table
11. Insertion Loss for the “C”, “L” and “ π ” circuits are equivalent due to the saturation characteristic of the ferrite bead element at full rated current. At lower currents the “L” and “ π ” become much more effective.

STANDARD CONFIGURATION

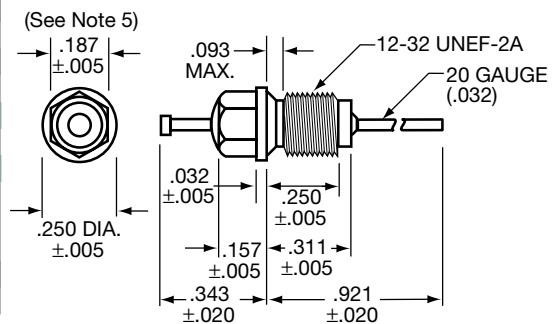


millimeters (inches)

0.05 (.002)	2.36 (.093)
0.13 (.005)	3.99 (.157)
0.18 (.007)	4.75 (.187)
0.25 (.010)	5.49 (.216)
0.51 (.020)	6.12 (.241)
0.58 (.023)	6.35 (.250)
0.79 (.031)	7.90 (.311)
0.81 (.032)	8.71 (.343)
1.02 (.040)	9.45 (.372)
1.14 (.045)	9.73 (.383)
1.60 (.063)	23.39 (.921)
1.85 (.073)	— —

(See Note 4)

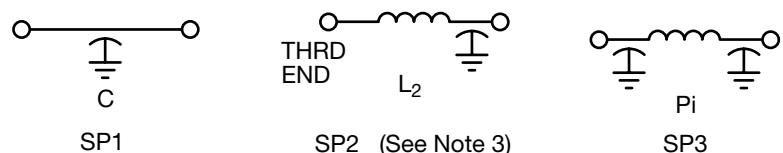
ALTERNATE CONFIGURATION (SC SERIES)



Notes:

1. Nailhead standard, straight lead available.
2. Lead diameters other than .032" available.
3. SP2 L-Section Filters have inductor (bead) at threaded end.
4. Metric equivalent dimensions given for information only.
5. Small-hex version may be specified for selected capacitance/voltage ratings. Contact AVX Filters Engineering for availability.

CIRCUIT DIAGRAMS



Bolt Style EMI Filters

SP Series – 12-32 Thread - Epoxy Sealed – Circuits Available – C, L, π



SPECIFICATIONS

AVX P/N	CKT	CAP ¹	DC Voltage	DCR	Insertion Loss ² Per MIL-STD-220, +25°C					
					1 MHz	10 MHz	100 MHz	200 MHz	1 GHz	10 GHz
SP1C1-204	C	.20	50	.01	26	39	52	60	70	70
SP2C1-204	L2	.20	50	.01	26	38	65	70	70	70
SP3C1-124	π	.12	50	.01	20	38	70	70	70	70
SP1A1-503	C	.05	100	.01	15	35	38	50	70	70
SP1A1-104	C	.10	100	.01	20	38	48	53	70	70
SP2A1-503	L2	.05	100	.01	15	36	54	60	70	70
SP3A1-753	π	.075	100	.01	18	38	70	70	70	70
SP1L1-102	C	1000	200*	.01	–	4	20	25	40	50
SP1L1-502	C	5000	200*	.01	–	15	34	41	50	55
SP1L1-103	C	.01	200*	.01	4	21	35	40	55	60
SP1L1-253	C	.025	200*	.01	8	28	36	44	64	70
SP2L1-102	L2	1000	200*	.01	–	4	20	27	45	70
SP2L1-502	L2	5000	200*	.01	–	15	35	41	55	70
SP2L1-103	L2	.01	200*	.01	4	21	35	38	65	70
SP3B1-152	π	1500	200	.01	–	8	20	45	70	70
SP3B1-123	π	.012	200	.01	–	12	60	70	70	70

* Rated 200 VDC or 125 VAC/400 Hz

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.