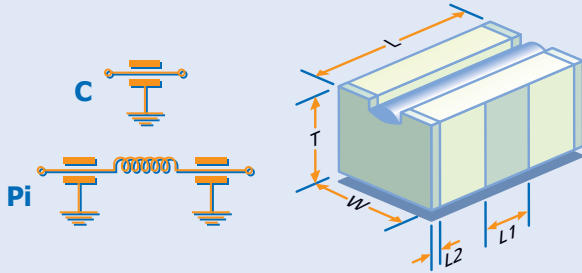


# Surface Mount EMI Filters

## Surface Mount C and Pi Filters

**SBSG**

The SBSG range has a 5A current rating for the Pi type, and 10A rating for the C type. Suitable for pick-and-place, these miniature surface mount filters offer assembly savings compared with conventional panel mounted filters. The combination of high current, high capacitance and high voltage makes them suitable for a wide range of applications including telecoms, mil/aerospace and industrial.



### Specifications

	mm	(inches)
<b>L</b>	5.25 ± 0.4	(0.207 ± 0.015)
<b>W</b>	3.20 ± 0.2	(0.126 ± 0.008)
<b>T</b>	2.50 ± 0.15	(0.098 ± 0.006)
<b>L1</b>	1.50 ± 0.4	(0.059 ± 0.015)
<b>L2</b>	0.30 ± 0.25	(0.012 ± 0.010)

### Electrical Configuration Capacitance Measurement Current Rating

C & Pi Filters  
At 1000hr point  
Pi Section 5 amps dc  
C Section 10 amps dc

### Temperature Rating DC Resistance Ferrite Inductance, typical Weight

-55°C to 125°C  
0.005 Ohms Max.  
0.5µH (Pi Section only)  
0.2g typical (0.007oz)

Type No. (* = Preferred Value)	Capacitance (M = +/-20%)	Dielectric Code	Rated Voltage (Vd.c.)	DWV (Vd.c.)	Typical Insertion Loss (dB) 50 ohm System No Load									
					C Section					Pi Section				
					0.1MHz	1MHz	10MHz	100MHz	1GHz	0.1MHz	1MHz	10MHz	100MHz	1GHz
* SBSG# <sup>1</sup> 5000102MX# <sup>2</sup>	1.0nF	X7R	500	750	0	0	4	23	41	0	0	5	33	60+
SBSG# <sup>1</sup> 5000152MX# <sup>2</sup>	1.5nF	X7R	500	750	0	0	7	26	45	0	0	9	40	60+
* SBSG# <sup>1</sup> 5000222MX# <sup>2</sup>	2.2nF	X7R	500	750	0	0	10	30	50	0	0	11	47	60+
SBSG# <sup>1</sup> 5000332MX# <sup>2</sup>	3.3nF	X7R	500	750	0	0	13	33	52	0	0	14	54	60+
* SBSG# <sup>1</sup> 5000472MX# <sup>2</sup>	4.7nF	X7R	500	750	0	1	16	36	55	0	1	19	57	60+
SBSG# <sup>1</sup> 5000682MX# <sup>2</sup>	6.8nF	X7R	500	750	0	2	19	39	57	0	2	24	60+	60+
* SBSG# <sup>1</sup> 5000103MX# <sup>2</sup>	10nF	X7R	500	750	0	4	22	41	60+	0	5	29	60+	60+
* SBSG# <sup>1</sup> 5000153MX# <sup>2</sup>	15nF	X7R	500	750	0	7	25	44	60+	0	7	36	60+	60+
* SBSG# <sup>1</sup> 5000223MX# <sup>2</sup>	22nF	X7R	500	750	0	10	29	46	60+	0	11	42	60+	60+
SBSG# <sup>1</sup> 5000333MX# <sup>2</sup>	33nF	X7R	500	750	0	13	33	48	60+	0	14	51	60+	60+
* SBSG# <sup>1</sup> 5000473MX# <sup>2</sup>	47nF	X7R	500	750	1	16	35	50	60+	1	16	57	60+	60+
SBSG# <sup>1</sup> 2000683MX# <sup>2</sup>	68nF	X7R	200	500	2	19	39	54	60+	3	19	60+	60+	60+
* SBSG# <sup>1</sup> 1000104MX# <sup>2</sup>	100nF	X7R	100	250	4	22	41	57	60+	5	21	60+	60+	60+
* SBSG# <sup>1</sup> 1000154MX# <sup>2</sup>	150nF	X7R	100	250	7	25	45	60+	60+	8	23	60+	60+	60+
* SBSG# <sup>1</sup> 0500224MX# <sup>2</sup>	220nF	X7R	50	125	10	29	49	60+	60+	11	27	60+	60+	60+

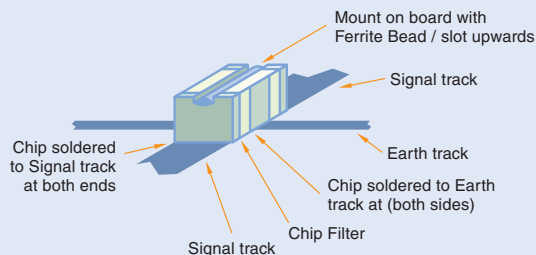
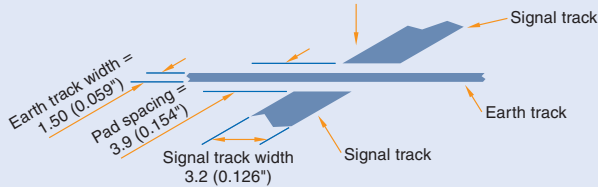
Note #<sup>1</sup> For C Filter insert "C", for Pi Filter insert "P". Note #<sup>2</sup> For taping on 7" reel insert "T", on 13" reel insert "R", if supplied in bulk insert "B". Insertion loss figures quoted are for filters mounted within a partition. It should be noted that some degradation will occur at higher frequencies for filters which are not fully shielded.

### SBSG

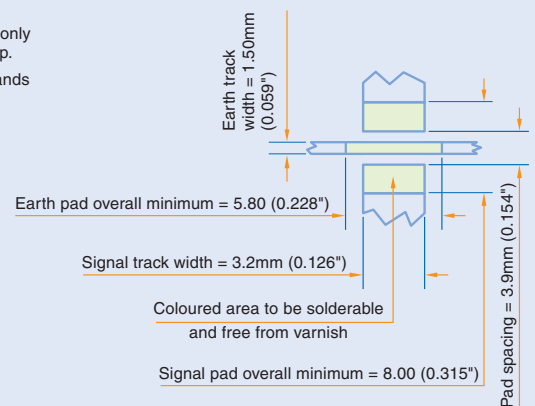
SM Pi or C filter mounted to board and soldered in identical manner to chip capacitor.

Solder connections made to each end (signal lines) and each side band (earth track).

Side bands provide earth contact points. Bands are formed on the sides of the chip only and are not continuous underneath the chip. Solder joints must be made to both side bands to ensure effective filtering.



### PAD DIMENSIONS - C & Pi Filter



### Notes on pad design

1. Pad / track design assumes 2oz copper track material.
2. Track width quoted allows for operation at max. rated current at 125°C.
3. Different operating conditions may allow alternative track designs to be used. Although any pad must be able to support continuous operating current at max. operating temperature.