

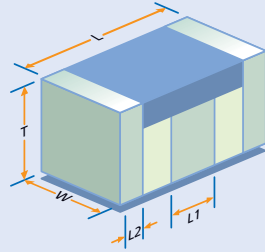
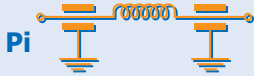
# Surface Mount EMI Filters

## Surface Mount Pi Filters

**SBSP**

A range of miniature surface mount pi-filters is available from Syfer Technology. In a size of only 1206, it offers an unbeatable combination of size and performance. With a 1A current rating, the SBSP range is available with working voltages up to 100Vdc. The use of X7R and COG ceramic dielectrics allows capacitance values from 22pF to 150nF, making it suitable for both signal and power lines and ensuring impressive EMI filtering performance up to 1GHz and higher. Ideal for telecoms, power supplies and industrial electronic equipment, the operating temperature range of -55°C to 125°C ensures they are also suitable for mil/aerospace applications.

### Circuit configuration



### Electrical Specifications

	mm	(inches)
<b>L</b>	3.2mm ± 0.3	(0.126" ± 0.012")
<b>W</b>	1.6mm ± 0.3	(0.063" ± 0.012")
<b>T</b>	1.6mm ± 0.2	(0.063" ± 0.008")
<b>L1</b>	0.95 ± 0.3	(0.037" ± 0.012")
<b>L2</b>	0.5 ± 0.25	(0.020" ± 0.010")

<b>Electrical Configuration</b>	Pi Filter	
<b>Capacitance Measurement</b>	At 1000hr point	
<b>Rated Current</b>	1 amp dc	
<b>Operating Temperature</b>	-55°C to 125°C	
<b>DC Resistance</b>	0.5 Ohms Max	
<b>Weight</b>	0.5g typical (0.18oz)	
<b>Dielectric Withstand Voltage</b>	Rated Voltage	DWV
	100Vdc	250Vdc
	50Vdc	125Vdc
	25Vdc	63Vdc
<b>Ferrite Inductance</b>	0.25µH	

Type No.	Capacitance (±20%)	Dielectric Code (Vd.c.)	Rated Voltage	Typical Insertion Loss (dB) 50 ohm System No Load				
				Pi Section				
				0.1MHz	1MHz	10MHz	100MHz	1GHz
SBSPP1000220MC#1	22pF	COG	100	0	0	0	1	12
SBSPP1000470MC#1	47pF	COG	100	0	0	0	3	21
SBSPP1000101MC#1	100pF	COG	100	0	0	0	7	32
SBSPP1000221MC#1	220pF	COG	100	0	0	1	13	45
SBSPP1000471MC#1	470pF	COG	100	0	0	2	22	58
SBSPP1000102MX#1	1nF	X7R	100	0	0	5	33	60+
SBSPP1000152MX#1	1.5nF	X7R	100	0	0	9	40	60+
SBSPP1000222MX#1	2.2nF	X7R	100	0	0	11	47	60+
SBSPP1000332MX#1	3.3nF	X7R	100	0	0	14	54	60+
SBSPP1000472MX#1	4.7nF	X7R	100	0	1	19	57	60+
SBSPP1000682MX#1	6.8nF	X7R	100	0	2	24	60+	60+
SBSPP1000103MX#1	10nF	X7R	100	0	5	29	60+	60+
SBSPP1000153MX#1	15nF	X7R	100	0	7	36	60+	60+
SBSPP0500223MX#1	22nF	X7R	50	0	11	42	60+	60+
SBSPP0500333MX#1	33nF	X7R	50	0	14	51	60+	60+
SBSPP0500473MX#1	47nF	X7R	50	1	16	57	60+	60+
SBSPP0500683MX#1	68nF	X7R	50	3	19	60+	60+	60+
SBSPP0250104MX#1	100nF	X7R	25	5	21	60+	60+	60+
SBSPP0250154MX#1	150nF	X7R	25	8	23	60+	60+	60+

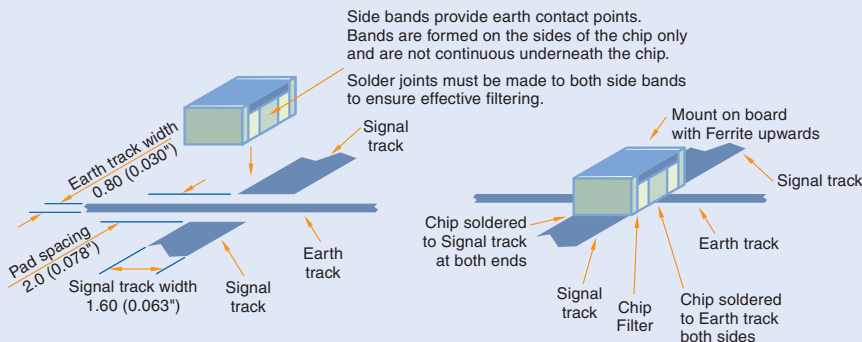
Note #1 T = Taped, B = Bulk, R = Large Reel

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.

### SBSP

#### Mounting Information and Soldering Procedures

SM Pi chip 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).



#### Recommended Pad/Track details

