

# PC Beads (Through Hole)



Quick Link: [www.fair-rite.com/pcb](http://www.fair-rite.com/pcb)

Multiple single turn or multi-turn printed circuit EMI suppression beads are available in two Fair-Rite materials. The broadband 44 material and in the high frequency 52 material grade.

- PC Beads can be supplied with lower component heights "C". Also, the wire length "F" can be modified to specific requirements.
- Wires are oxygen free high conductivity copper with 100% matte tin plating over a nickel undercoating. Wires on top of the beads are covered with a layer of epoxy.
- PC Beads are controlled for impedance only. Minimum impedance values are specified for the + marked frequencies. The minimum impedance is typically the listed impedance less 20%.
- The PC Beads in 44 material are measured on the 4193A Vector Impedance Analyzer. The 52 PC Beads are tested for impedance on the 4291A RF Impedance Analyzer.
- Recommended operating and storage temperature for the PC Beads is -55 °C to +125 °C.
- Performance curves for these suppression components are on our web site.
- Explanation of Part Numbers: Digits 1&2 = product class, 3&4 = material grade and last digit 1 = standard wire length 2.4 mm (0.095") minimum, 2 = wire length 3.1 mm (0.122") minimum.

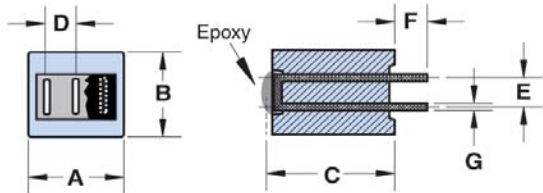


Figure 1

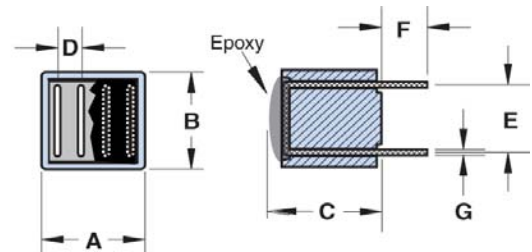


Figure 3

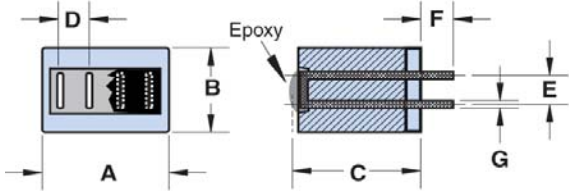


Figure 2

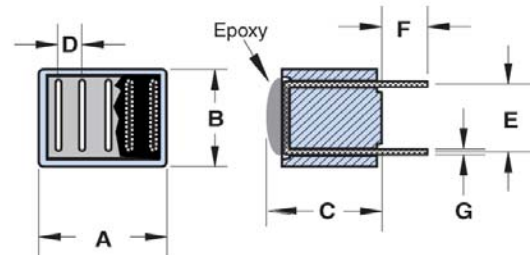


Figure 4

## Typical Multi Turn Printed Circuit Board Layouts

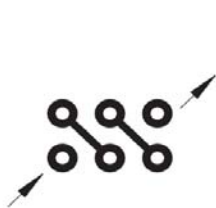


Figure 1A:  
3 Turn winding  
for parts in Fig.1

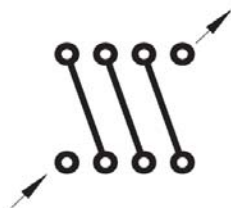


Figure 3A:  
4 Turn turn winding  
for parts in Fig.3.

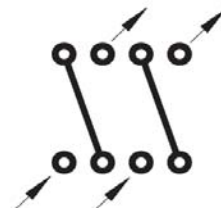


Figure 3B:  
2 x 2 Turn winding  
for parts in Fig.3.

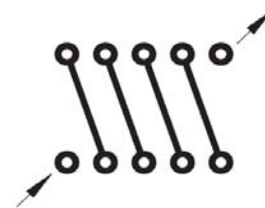


Figure 4A:  
5 Turn winding  
for parts in Fig.4.

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Legend

Dimensions (Top numbers are in millimeters, bottom numbers are in nominal inches.)

\* Test frequency

## Broadband Frequencies 10-300 MHz (44 material)

Part Number	Fig.	A	B	C	D	E	F	G	Wt. (g)	Impedance (Ω)			
										10 MHz	25 MHz <sup>+</sup>	100 MHz <sup>+</sup>	250 MHz
2944776101	1	8.00 -0.35 0.308	7.60 -0.50 0.290	11.80 Max 0.464 Max	2.54 ±0.10 0.100	2.54 ±0.10 0.100	2.40 Min 0.095 Min	0.65 22 AWG	2.60	115	188	288	305
2944778101	2	11.20 -0.50 0.430	5.75 -0.50 0.216	11.80 Max 0.464 Max	2.54 ±0.10 0.100	2.54 ±0.10 0.100	2.40 Min 0.095 Min	0.65 22 AWG	2.70	115	188	288	305
2944778301	3	11.20 -0.50 0.430	11.20 -0.50 0.430	11.80 Max 0.464 Max	2.54 ±0.10 0.100	7.60 ±0.20 0.300	2.40 Min 0.095 Min	0.65 22 AWG	6.00	142	219	338	335
2944770301	4	13.45 ±0.25 0.530	11.20 -0.50 0.430	11.80 Max 0.464 Max	2.54 ±0.10 0.100	7.60 ±0.20 0.300	2.40 Min 0.095 Min	0.65 22 AWG	7.40	142	219	338	335

## Higher Frequencies 250-1000 MHz (52 material)

Part Number	Fig.	A	B	C	D	E	F	G	Wt. (g)	Impedance (Ω)			
										100 MHz	250 MHz <sup>+</sup>	500 MHz <sup>+</sup>	1000 MHz
2952776101	1	8.00 -0.35 0.308	7.60 -0.50 0.290	11.80 Max 0.464 Max	2.54 ±0.10 0.100	2.54 ±0.10 0.100	2.40 Min 0.095 Min	0.65 22 AWG	2.60	270	380	345	250
2952778301	3	11.20 -0.50 0.430	11.20 -0.50 0.430	11.80 Max 0.464 Max	2.54 ±0.10 0.100	7.60 ±0.20 0.300	2.40 Min 0.095 Min	0.65 22 AWG	6.00	320	460	395	300

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