

Multilayer Chip Beads

Advantages of using Multi Layer Chips

Features

1. Small size chips generate high impedance.
2. Minimum floating capacity and excellent high frequency characteristics.
3. Outstanding soldering heat resistance. Both flow and reflow soldering methods can be used.
4. Perfect shape for automatic mounting, with no directionality.
5. Monolithic inorganic material construction for high reliability.
6. Closed magnetic circuit avoids crosstalk and is suited to high density printed circuit boards.

Common Applications for Impedance Chips

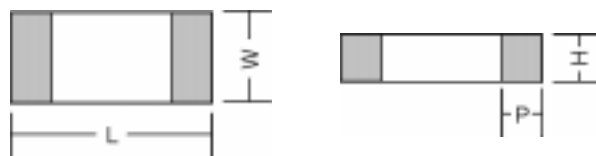
Clock generation circuitry, filtering between analogue and digital circuitry, I/O interconnectors (e.g. serial, parallel, keyboard, mouse, telecommunications, local area networks), isolation between RF noisy circuits and logic circuits and logic devices susceptible to functional degradation, power supply filtering to prevent conducted RF energy from corrupting the power generation circuitry, high frequency EMI prevention of computers, VCR's, TV's and portable telephones.

About using Multi Layer Chips

Chip Beads (Impeders), perform the function of removing RF energy that exists within a transmission line structure (Printed circuit board tracking). This RF energy is an AC sine wave component that co-exists with the DC voltage level of the transmitted signal. The DC component is the intended signal of interest whereas RF energy will propagate down the trace and radiate as E.M.I. Beads perform the function of being a high frequency resistor (attenuator) allowing DC energy to pass through whilst removing AC energy. High frequency is generally considered to be above 30MHz, however, lower frequency signals are affected by chip impeders.

Chip Beads consist of a soft ferrite material which responds to RF energy. This material contains high resistivity in monolithic form. Eddy current losses are inversely proportional to resistivity. These losses increase with the square of the frequency. The eddy currents are the RF energy that travels through the device. Hard ferrite is associated with a permanent magnetic field, its polarities become fixed as North and South. Soft ferrite material will change its impedance value based on the frequency that the bead presents to the circuit and does not permanently retain the magnetic field.

Package Size	Package Code	Package Dimensions						
		(L	x	W	x	H	x	P)
06:03	1J	1.6 ± 0.15	x	0.8 ± 0.15	x	0.8 ± 0.15	x	0.3 ± 0.20
08:05	2A	2.0 ± 0.20	x	1.2 ± 0.20	x	0.9 ± 0.20	x	0.5 ± 0.30
12:06	2B	3.2 ± 0.20	x	1.6 ± 0.20	x	1.6 ± 0.20	x	0.5 ± 0.30
12:10	2E	3.2 ± 0.20	x	2.5 ± 0.20	x	1.3 ± 0.20	x	0.5 ± 0.30
18:06	2G	4.5 ± 0.20	x	1.6 ± 0.20	x	1.6 ± 0.20	x	0.5 ± 0.30
18:12	2J	4.5 ± 0.20	x	3.2 ± 0.20	x	1.5 ± 0.20	x	0.5 ± 0.30



A Selection Guide to Miniature Ferrite Chip Beads

The BMB-A Series covers a wide range of impedance characteristics. It is designed to prevent electromagnetic interference.

The BMB-B Series can minimize attenuation of the signal wave form due to its sharp impedance characteristics. It is designed for high speed applications

The BMB-R Series generates an impedance down to relatively low frequency. The impedance consists of a resistance element and prevents signal ringing. This Series has been specifically designed for low speed applications.

The BMB-P Series can be used in high current circuits due to its low DC resistance. It can match power lines to a maximum of 6A DC.

The BMB-L Series have a higher current capacity than the BMB-A Series. This Series is suitable for use on signal lines handling high currents.

The BMB-M Series meets the requirements for high density packaging of electronic circuitry by incorporating 4 ferrite beads into one package.

	Series	Application	Case Size	Product Characteristics			
	BMB-A	Multilayer Chip Bead for General use (High loss type)	06:03	Impedance: 30 ~ 600R			
			08:05	Impedance: 10 ~ 1500R			
			12:06	Impedance: 26 ~ 2000R			
			12:10	Impedance: 52 ~ 60R			
			18:06	Impedance: 80 ~ 150R			
	BMB-B	Multilayer Chip Bead for High-speed signal line use	06:03	Impedance: 5 ~ 600R			
			08:05	Impedance: 5 ~ 1000R			
			12:06	Impedance: 19R			
			12:10	Impedance: 31R			
			18:06	Impedance: 31R			
	BMB-R	Multilayer Chip Bead for Digital sound use (For ringing prevention)	06:03	Impedance: 80 ~ 600R			
			08:05	Impedance: 80 ~ 600R			
			12:06	Impedance: 26 ~ 600R			
				BMB-P	Multilayer Chip Bead for high current use	06:03	Impedance: 10 ~ 25R
						08:05	Impedance: 10 ~ 40R
12:06	Impedance: 30 ~ 80R						
18:06	Impedance: 50 ~ 80R						
<td rowspan="2">BMB-L</td> <td rowspan="2">Multilayer Chip Bead for General use (High loss type)</td> <td>06:03</td> <td>Impedance: 30 ~ 1000R</td>	BMB-L	Multilayer Chip Bead for General use (High loss type)	06:03	Impedance: 30 ~ 1000R			
			08:05	Impedance: 30 ~ 1500R			
<td rowspan="1">BMB-M</td> <td rowspan="1">Multilayer Bead Array for multiple lines (New Product)</td> <td rowspan="1">12:06</td> <td rowspan="1">Impedance: 60 ~ 600R</td>	BMB-M	Multilayer Bead Array for multiple lines (New Product)	12:06	Impedance: 60 ~ 600R			