

# Chip Beads(SMD) For Signal Line

Conformity to RoHS Directive

## MMZ Series MMZ1608-C Type

### FEATURES

- Two sizes: 1.6×0.8×0.6 and 1.6×0.8×0.8mm. Chip bead(impeder) built using 5-materials construction.
- Layout of the interior electrode structure has been optimized, thereby improving high frequency characteristics, decreasing Rdc, and lowering height.
- Size standardized for use by automatic assembly equipment. No preferred orientation.
- Either flow or reflow soldering method can be used due to electroplating of the terminal electrodes.
- High reliability due to an entirely monolithic structure.
- Closed magnetic circuit structure allows high-density installation while preventing crosstalk between circuits.
- Low DC resistance structure of electrode prevents wasteful electric power consumption.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

### APPLICATIONS

Personal computers, CRTs, liquid crystal display panels, printers, hard disk drives, game machines, cellular phones, etc.

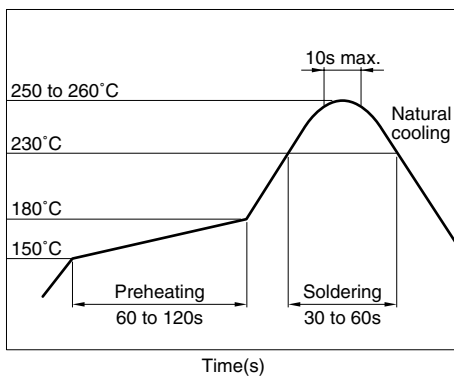
### PRODUCT IDENTIFICATION

MMZ	1608	R	121	C	T
(1)	(2)	(3)	(4)	(5)	(6)

- (1) Series name
- (2) Dimensions L×W
- (3) Material code
- (4) Nominal impedance  
121:120Ω at 100MHz
- (5) Characteristic type
- (6) Packaging style  
T:Taping

### RECOMMENDED SOLDERING CONDITION

#### REFLOW SOLDERING



- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- Please contact our Sales office when your application are considered the following:  
The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

• All specifications are subject to change without notice.

### MATERIAL CHARACTERISTICS

**B material:** This type is perfectly suited for fast digital signals. By equalizing R components and X components that beads possess at a frequency of 5MHz, it is able to suppress overshooting, undershooting and ringing of fast digital signals.

**R material:** For wide frequency applications calling for broad impedance characteristics.

For digital signal line applications calling requiring good waveform integrity. Impedance values selected for effectiveness at 10 to 200MHz.

**S material:** Standard type that features impedance characteristics similar to those of a typical ferrite core.

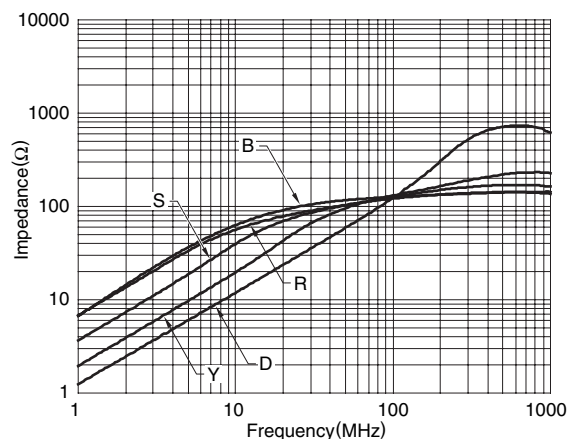
For signal line applications in which the blocking region is near 100MHz. Impedance values selected for effectiveness at 40 to 300MHz.

**Y material:** High frequency range type intended for the 100MHz region and above.

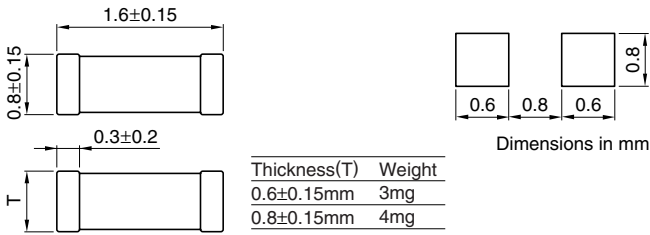
For signal line applications in which the signal frequency is far from the cutoff frequency. Impedance values selected for effectiveness at 80 to 400MHz.

**D material:** For applications calling for low insertion loss at low frequencies and sharply increasing impedance at high frequencies. Designed for high impedance at high frequencies (200 to 500MHz) for signal line applications.

### TYPICAL MATERIAL CHARACTERISTICS



## SHAPES AND DIMENSIONS/ RECOMMENDED PC BOARD PATTERN



## TEMPERATURE RANGES

Operating/storage	-55 to +125°C
-------------------	---------------

## PACKAGING STYLE AND QUANTITIES

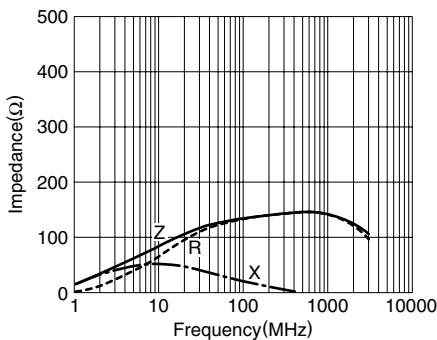
Packaging style	Quantity
Taping	4000 pieces / reel

## ELECTRICAL CHARACTERISTICS

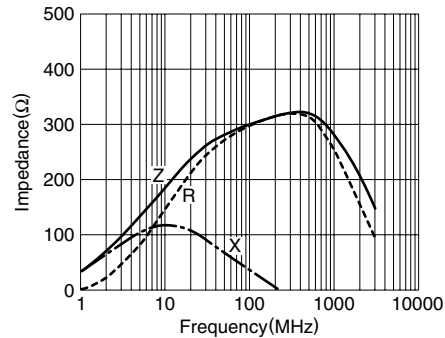
Part No.	Impedance (Ω) [100MHz]	DC resistance (Ω)max.	Rated current (mA)max.	Product's thickness T(mm)
MMZ1608B121C	120±25%	0.15	600	0.6
MMZ1608B301C	300±25%	0.25	500	0.6
MMZ1608B601C	600±25%	0.4	500	0.6
MMZ1608R121C	120±25%	0.15	500	0.6
MMZ1608R301C	300±25%	0.25	500	0.6
MMZ1608R601C	600±25%	0.3	500	0.6
MMZ1608R102C	1000±25%	0.45	400	0.8
MMZ1608S800C	80±25%	0.15	500	0.6
MMZ1608S121C	120±25%	0.15	500	0.6
MMZ1608S181C	180±25%	0.2	500	0.6
MMZ1608S301C	300±25%	0.25	500	0.6
MMZ1608S601C	600±25%	0.3	500	0.6
MMZ1608S102C	1000±25%	0.45	400	0.8
MMZ1608Y121C	120±25%	0.15	500	0.6
MMZ1608Y301C	300±25%	0.25	500	0.6
MMZ1608Y601C	600±25%	0.3	500	0.6
MMZ1608Y102C	1000±25%	0.45	400	0.8
MMZ1608Y152C	1500±25%	0.5	300	0.8
MMZ1608D050C	5±2Ω	0.1	700	0.8
MMZ1608D100C	10±5Ω	0.15	500	0.6
MMZ1608D220C	22±25%	0.2	500	0.6
MMZ1608D500C	50±25%	0.3	500	0.6
MMZ1608D800C	80±25%	0.35	500	0.6
MMZ1608D121C	120±25%	0.45	400	0.6
MMZ1608D241C	240±25%	0.6	300	0.8

## TYPICAL ELECTRICAL CHARACTERISTICS Z, X, R vs. FREQUENCY CHARACTERISTICS

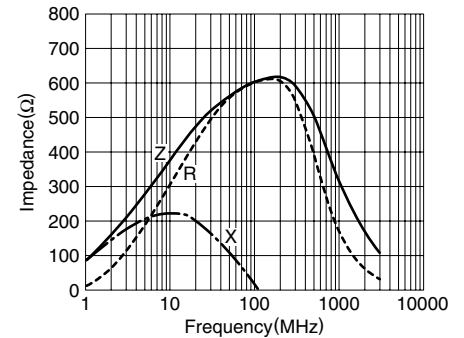
MMZ1608B121C



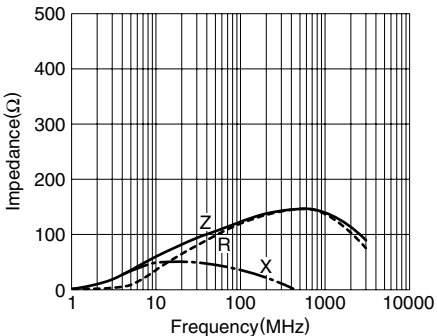
MMZ1608B301C



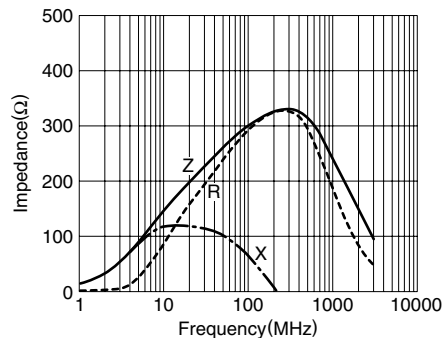
MMZ1608B601C



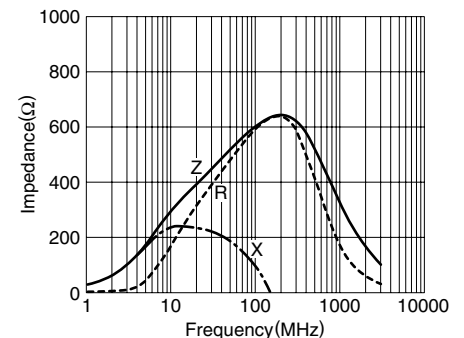
MMZ1608R121C



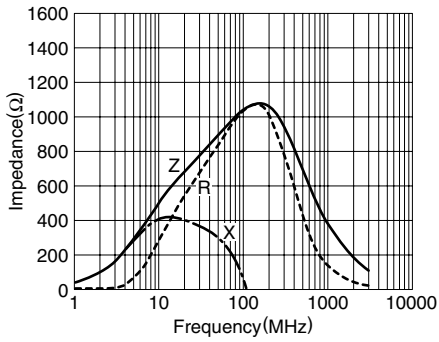
MMZ1608R301C



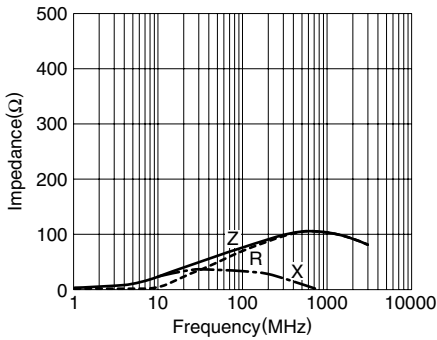
MMZ1608R601C



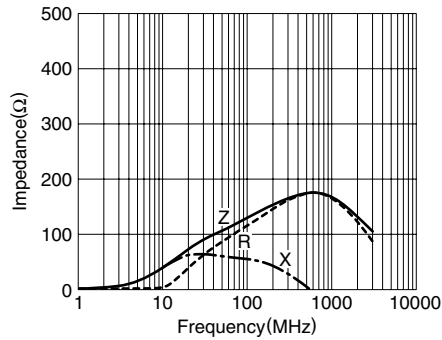
**TYPICAL ELECTRICAL CHARACTERISTICS**  
**Z, X, R vs. FREQUENCY CHARACTERISTICS**  
**MMZ1608R102C**



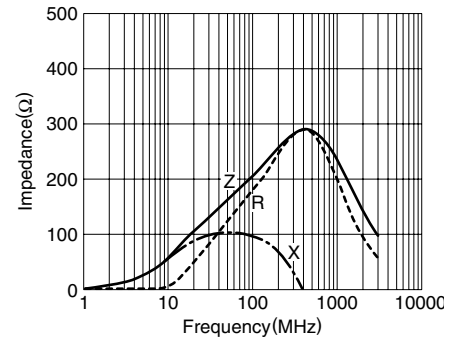
**MMZ1608S800C**



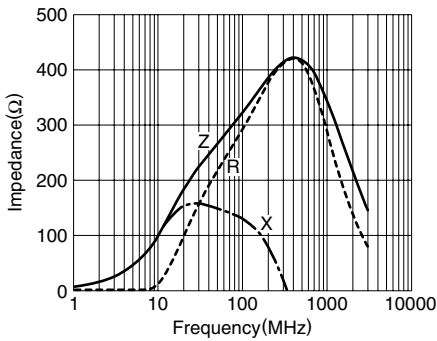
**MMZ1608S121C**



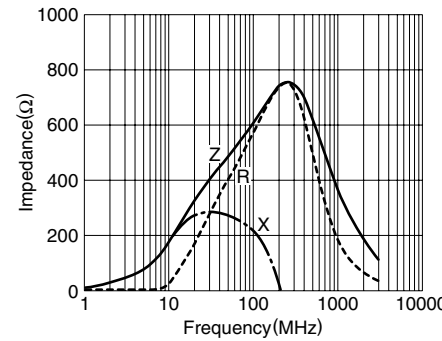
**MMZ1608S181C**



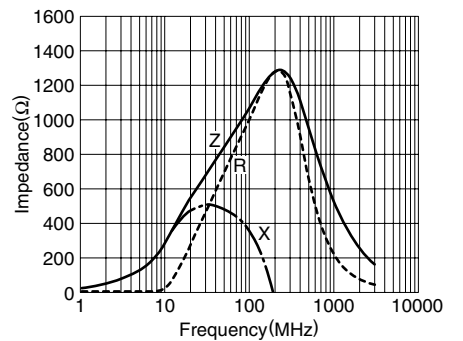
**MMZ1608S301C**



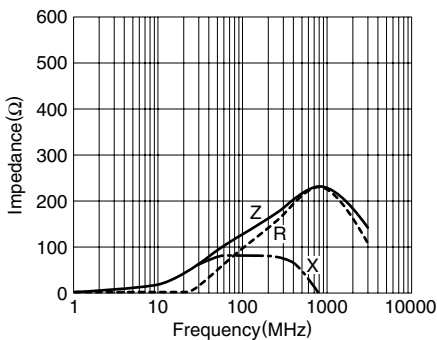
**MMZ1608S601C**



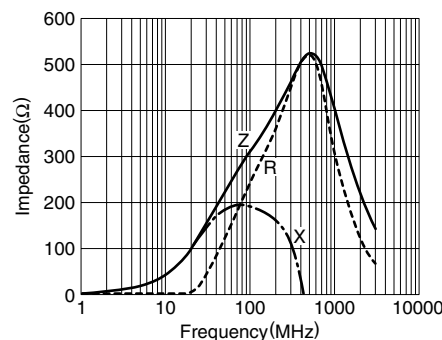
**MMZ1608S102C**



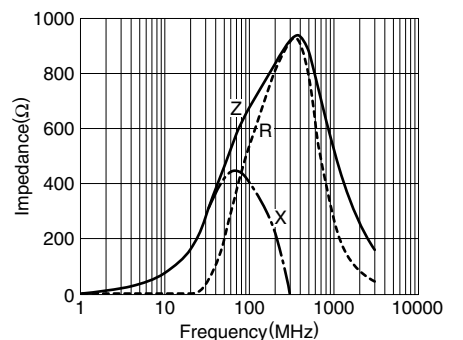
**MMZ1608Y121C**



**MMZ1608Y301C**



**MMZ1608Y601C**

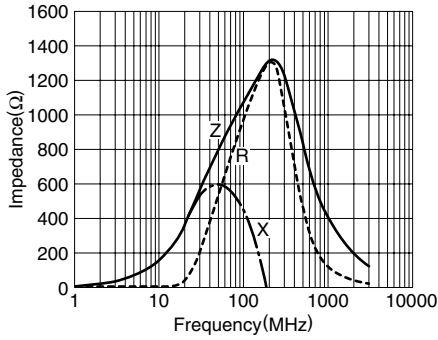


• All specifications are subject to change without notice.

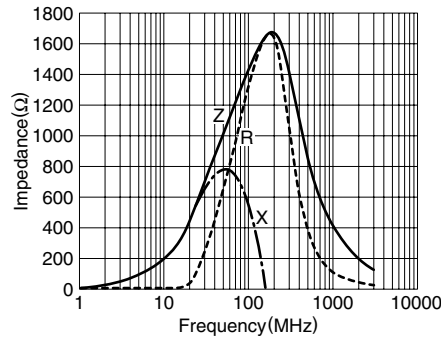
**TYPICAL ELECTRICAL CHARACTERISTICS**

**Z, X, R vs. FREQUENCY CHARACTERISTICS**

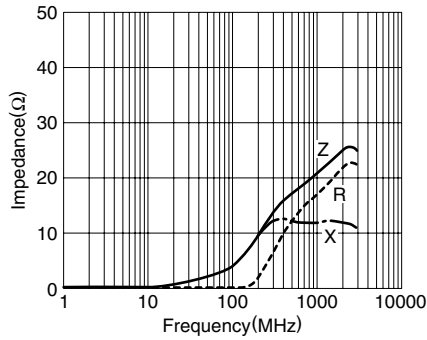
**MMZ1608Y102C**



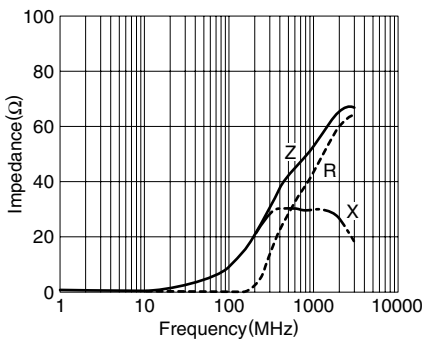
**MMZ1608Y152C**



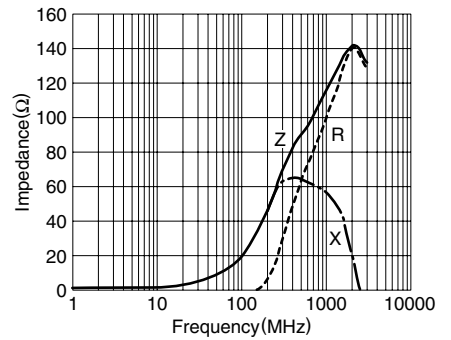
**MMZ1608D050C**



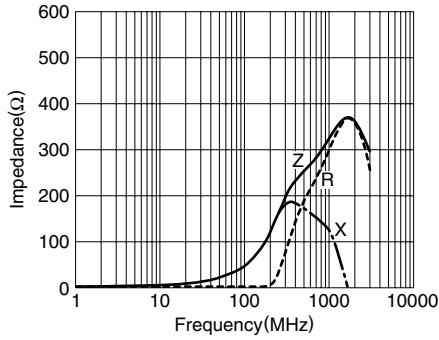
**MMZ1608D100C**



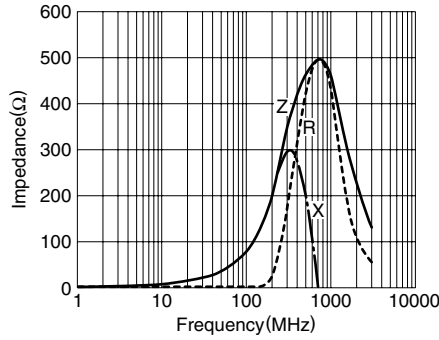
**MMZ1608D220C**



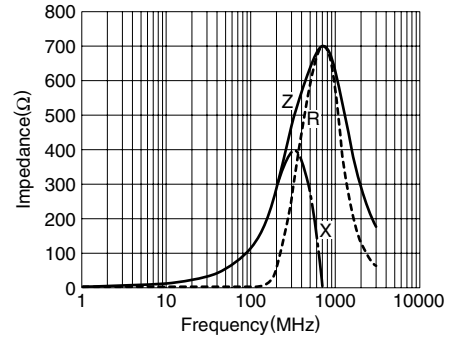
**MMZ1608D500C**



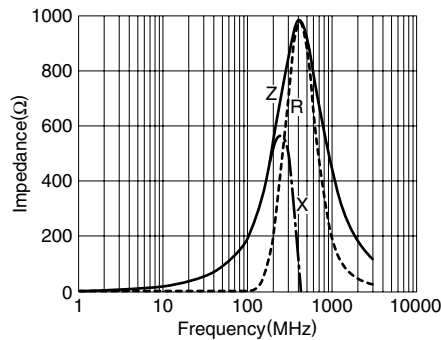
**MMZ1608D800C**



**MMZ1608D121C**



**MMZ1608D241C**



• All specifications are subject to change without notice.