TDK

# Chip Beads(SMD)
# For Power Line

**Conformity to RoHS Directive**

## MPZ Series MPZ2012 Type

### FEATURES

- The MPZ series are multilayer chip impeders for power supply line applications.
- High miniaturized, these parts nonetheless exhibit low DC resistance and high current handling capability.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

### APPLICATIONS

Noise elimination of DC power supply lines for USB interface circuitry, personal computers, electronic games, hard disk drives, and other general electronic equipment.
Also effective as a noise countermeasure in signal lines.

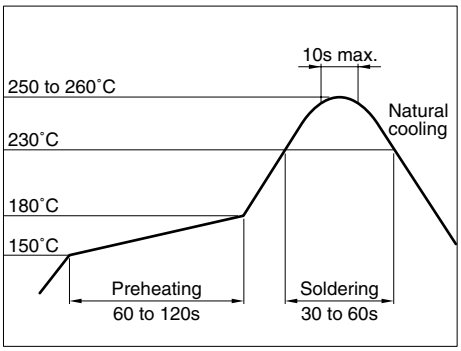
### PRODUCT IDENTIFICATION

| MPZ | 2012 | S | 331 | A | T |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |

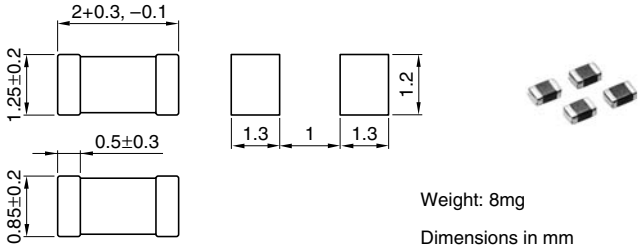
(1)Series name
(2)Dimensions L×W
(3)Material code
(4)Nominal impedance
331: 330Ω at 100MHz
(5)Characteristic type
(6)Packaging style
T: Taping

### RECOMMENDED SOLDERING CONDITION

**REFLOW SOLDERING**




### SHAPES AND DIMENSIONS/RECOMMENDED PC BOARD PATTERN




Weight: 8mg

Dimensions in mm

### TEMPERATURE RANGES

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

### PACKAGING STYLE AND QUANTITIES

| Packaging style | Quantity |
|---|---|
| Taping | 4000 pieces/reel |

### HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components. The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- The inductance value may change due to magnetic saturation if the current exceeds the rated maximum.
- Do not expose the inductors to stray magnetic fields.
- Avoid static electricity discharge during handling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 350°C. Soldering time should not exceed 3 seconds.

- 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.)

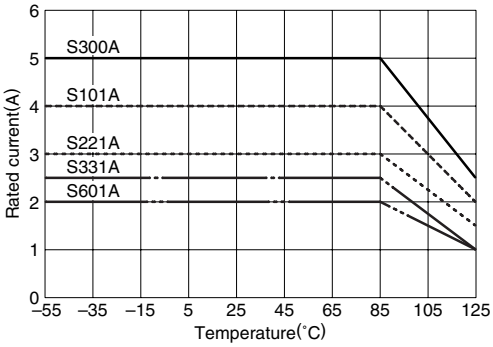
• All specifications are subject to change without notice.

## ELECTRICAL CHARACTERISTICS

| Part No. | Impedance (Ω)[100MHz]*1 | DC resistance (Ω)max. | Rated current*2 (A)max. |
|---|---|---|---|
| MPZ2012S300A | 30±10Ω | 0.01 | 5 |
| MPZ2012S101A | 100±25% | 0.02 | 4 |
| MPZ2012S221A | 220±25% | 0.04 | 3 |
| MPZ2012S331A | 330±25% | 0.05 | 2.5 |
| MPZ2012S601A | 600±25% | 0.1 | 2 |

*1 Test equipment: E4991A or equivalent
Test tool: 16192A or equivalent
*2 Please refer to the graph of RATED CURRENT vs. TEMPERATURE CHARACTERISTICS(DERATING) about the rating current at 85°C or more in temperature of the product.

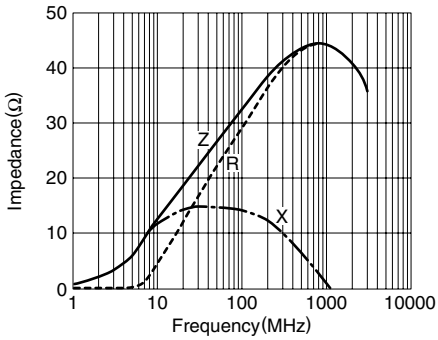
## RATED CURRENT vs. TEMEPERATURE CHARACTERISTICS (DERATING)



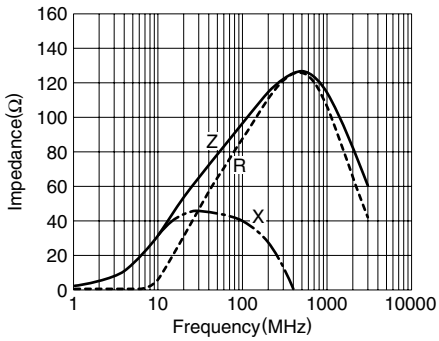

## TYPICAL ELECTRICAL CHARACTERISTICS

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

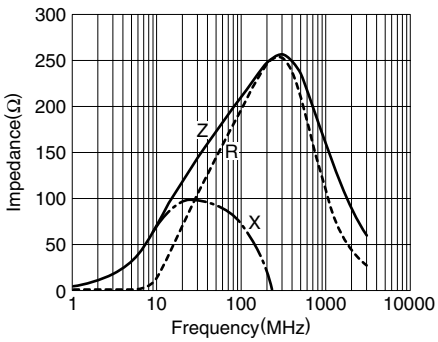
**MPZ2012S300A**



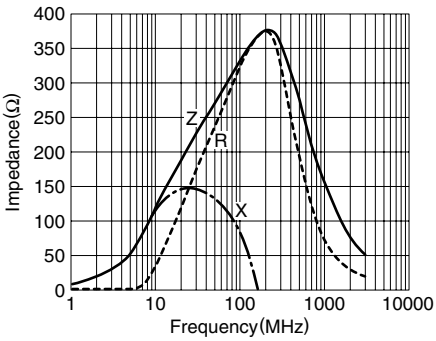

**MPZ2012S101A**



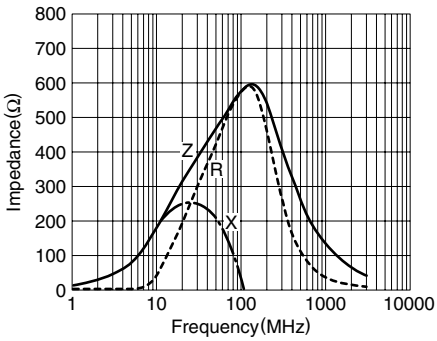

**MPZ2012S221A**




**MPZ2012S331A**

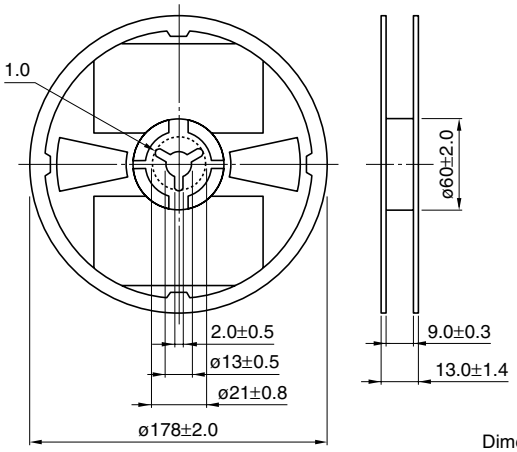



**MPZ2012S601A**



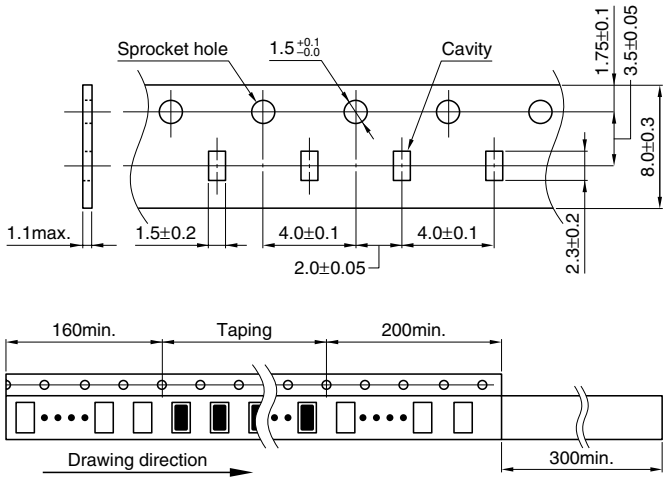

## PACKAGING STYLES

### REEL DIMENSIONS




Dimensions in mm

### TAPE DIMENSIONS




Dimensions in mm