

# Multilayer Chip Ferrite Bead – HPZ Series

Operating Temp. : -55℃~+125℃



## FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- Perfect effect for EMI suppression at high frequency ( $\geq 1\text{GHz}$ )
- Low DC resistance suitable for large current signals
- Four types material and wide range of impedance values for various applications

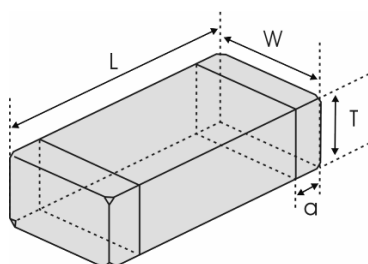
## APPLICATIONS

- High frequency noise suppression in electric equipments such as computers and peripheral devices, DVD, cameras, LCD TVs, communication equipments, OA equipments, etc.

## PRODUCT IDENTIFICATION

|                   |                                                              |                                |                 |                                      |               |               |                 |
|-------------------|--------------------------------------------------------------|--------------------------------|-----------------|--------------------------------------|---------------|---------------|-----------------|
| <u>HPZ</u><br>①   | <u>1608</u><br>②                                             | <u>D</u><br>③                  | <u>221</u><br>④ | <u>-R60</u><br>⑤                     | <u>T</u><br>⑥ | <u>F</u><br>⑦ | <u>□□□</u><br>⑧ |
| ①                 | ②                                                            |                                | ⑤               |                                      | ③             |               | ⑧               |
| Type              |                                                              | External Dimensions (L×W) (mm) |                 | Material Code                        |               |               |                 |
| HPZ               | Chip Ferrite Bead<br>For High Frequency<br>and Large Current |                                | 1005 [0402]     | 1.0×0.5                              | G, D, E, U    |               |                 |
|                   |                                                              |                                | 1608 [0603]     | 1.6×0.8                              |               |               |                 |
| ④                 |                                                              | ⑥                              |                 | ⑦                                    |               |               |                 |
| Nominal Impedance |                                                              | Rated Current                  |                 | Hazardous Substance<br>Free Products |               |               |                 |
| Example           | Nominal Value                                                | R60                            | 0.6A            | F                                    |               |               |                 |
| 221               | 220Ω                                                         | 1R0                            | 1.0A            |                                      |               |               |                 |
| 102               | 1000Ω                                                        | ⑥                              |                 | ⑧                                    |               |               |                 |
|                   |                                                              | Packing                        |                 | Design Code                          |               |               |                 |
|                   |                                                              | T                              | Tape & Reel     | □□□ Design Code                      |               |               |                 |
|                   |                                                              |                                |                 | * Standard product is blank          |               |               |                 |

## SHAPE AND DIMENSIONS



Unit: mm [inch]

| Type              | L                       | W                       | T                       | a                       |
|-------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| HPZ1005<br>[0402] | 1.0±0.15<br>[.039±.006] | 0.5±0.15<br>[.020±.006] | 0.5±0.15<br>[.020±.006] | 0.25±0.1<br>[.010±.004] |
| HPZ1608<br>[0603] | 1.6±0.15<br>[.063±.006] | 0.8±0.15<br>[.031±.006] | 0.8±0.15<br>[.031±.006] | 0.3±0.2<br>[.012±.008]  |

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## SPECIFICATIONS

### HPZ1005 TYPE

| Part Number       | Impedance |            | Max. DC Resistance | Max. Rated Current | Thickness               |
|-------------------|-----------|------------|--------------------|--------------------|-------------------------|
|                   | @100MHz   | @1GHz Min. |                    |                    |                         |
| Units             | $\Omega$  |            | $\Omega$           | mA                 | mm [inch]               |
| Symbol            | Z         |            | DCR                | I <sub>r</sub>     | T                       |
| HPZ1005D121-R60TF | 120±25%   | 100        | 0.25               | 600                | 0.5±0.15<br>[.020±.006] |
| HPZ1005D221-R50TF | 220±25%   | 300        | 0.38               | 500                |                         |
| HPZ1005U121-R60TF | 120±25%   | 100        | 0.25               | 600                |                         |
| HPZ1005U121-1R1TF | 120±25%   | 100        | 0.13               | 1100               |                         |
| HPZ1005U221-R50TF | 220±25%   | 200        | 0.38               | 500                |                         |
| HPZ1005U221-R70TF | 220±25%   | 250        | 0.25               | 700                |                         |

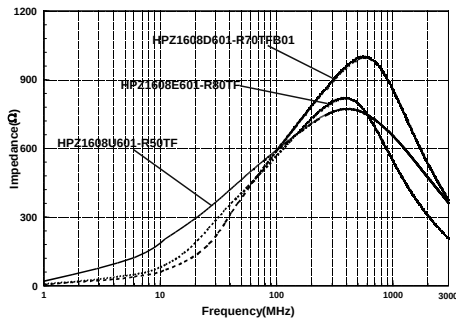
### HPZ1608 TYPE

| Part Number          | Impedance |            | Max. DC Resistance | Max. Rated Current | Thickness               |
|----------------------|-----------|------------|--------------------|--------------------|-------------------------|
|                      | @100MHz   | @1GHz Min. |                    |                    |                         |
| Units                | $\Omega$  |            | $\Omega$           | mA                 | mm [inch]               |
| Symbol               | Z         |            | DCR                | I <sub>r</sub>     | T                       |
| HPZ1608G121-R90TFB01 | 120±25%   | 500        | 0.13               | 900                | 0.8±0.15<br>[.031±.006] |
| HPZ1608D121-1R5TF    | 120±25%   | 200        | 0.07               | 1500               |                         |
| HPZ1608D151-R80TF    | 150±25%   | 200        | 0.20               | 800                |                         |
| HPZ1608D151-1R5TF    | 150±25%   | 200        | 0.07               | 1500               |                         |
| HPZ1608D221-R60TF    | 220±25%   | 300        | 0.25               | 600                |                         |
| HPZ1608D221-1R2TF    | 220±25%   | 300        | 0.12               | 1200               |                         |
| HPZ1608D331-R90TFB01 | 330±25%   | 380        | 0.15               | 900                |                         |
| HPZ1608D391-R70TF    | 390±25%   | 600        | 0.18               | 700                |                         |
| HPZ1608D471-R70TFB02 | 470±25%   | 550        | 0.22               | 700                |                         |
| HPZ1608D601-R70TFB01 | 600±25%   | 750        | 0.24               | 700                |                         |
| HPZ1608D102-R60TF    | 1000±25%  | 1000       | 0.35               | 600                |                         |
| HPZ1608E601-R80TF    | 600±25%   | 500        | 0.25               | 800                |                         |
| HPZ1608E102-R60TF    | 1000±25%  | 600        | 0.35               | 600                |                         |
| HPZ1608E152-R50TF    | 1500±25%  | 1000       | 0.50               | 500                |                         |
| HPZ1608U101-R80TF    | 100±25%   | 100        | 0.20               | 800                |                         |
| HPZ1608U101-2R0TF    | 100±25%   | 100        | 0.055              | 2000               |                         |
| HPZ1608U121-2R0TF    | 120±25%   | 110        | 0.055              | 2000               |                         |
| HPZ1608U221-R60TF    | 220±25%   | 220        | 0.25               | 600                |                         |
| HPZ1608U471-R50TF    | 470±25%   | 400        | 0.32               | 500                |                         |
| HPZ1608U601-R50TF    | 600±25%   | 450        | 0.35               | 500                |                         |
| HPZ1608U102-R15TF    | 1000±25%  | 750        | 0.90               | 150                |                         |

※: Products with other electrical characteristics can be provided upon customer's request. Please contact your local sales.

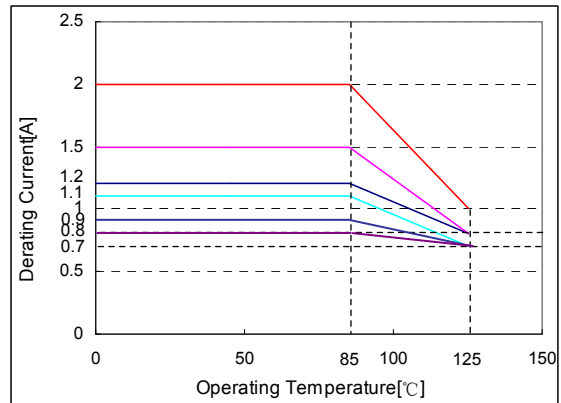
## TYPICAL ELECTRICAL CHARACTERISTICS

### D, E, U Material Comparison



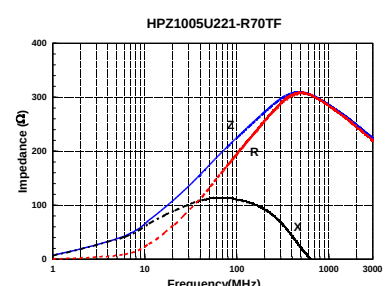
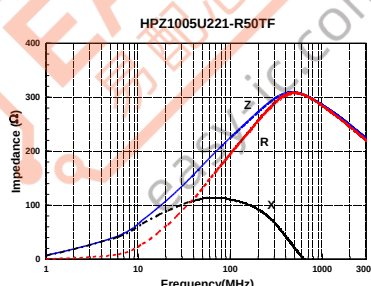
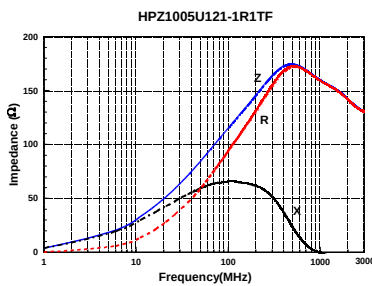
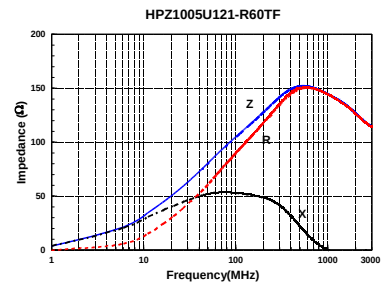
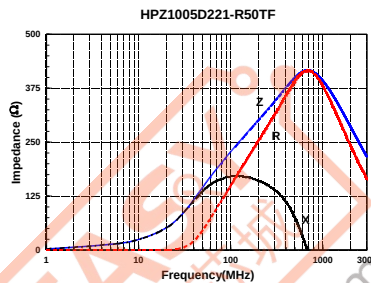
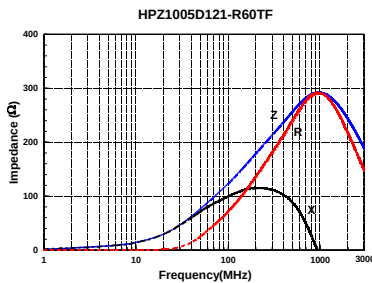
### Rated Current

When operating temperatures exceed +85°C, derating of current is necessary for chip ferrite beads for which rated current is 800mA and over. Please apply the derating curve shown in chart according to the operating temperature.

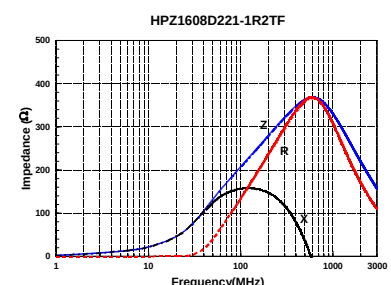
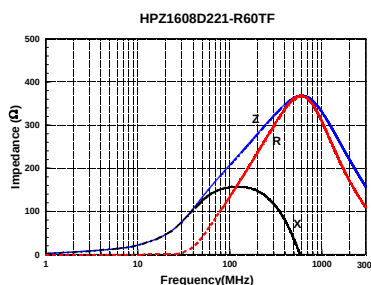
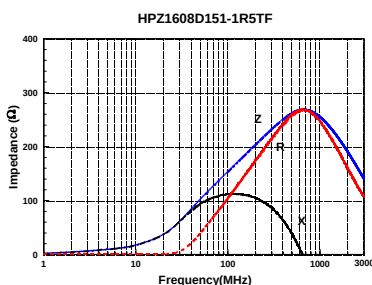
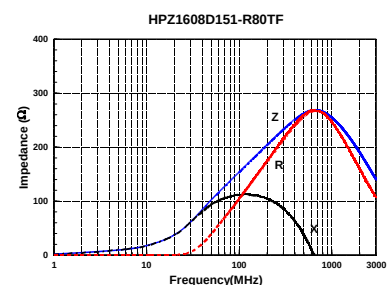
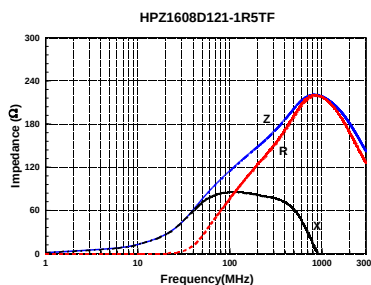
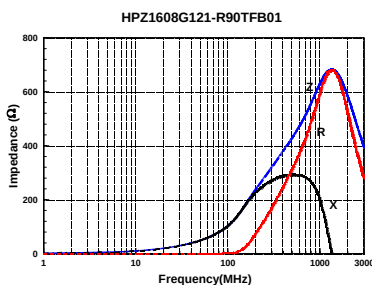


## DETAIL ELECTRICAL CHARACTERISTICS

### HPZ1005 TYPE



### HPZ1608 TYPE



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# DETAIL ELECTRICAL CHARACTERISTICS

## HPZ1608 TYPE

