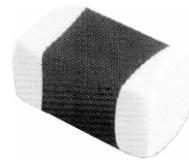


Multilayer Chip Ferrite Bead – GZ Series

Operating Temp. : -55 ~+125



FEATURES

Internal silver printed layers and magnetic shielded structures to minimize crosstalk
Can be used in a wide range of frequency (from dozens of MHz to hundreds of MHz) to suppress EMI
Three types material and wide range of impedance values for various applications

APPLICATIONS

Noise suppression for low speed signal of electric equipments such as computers and peripheral devices, DVD cameras, LCD TVs, communication equipments, OA equipments, etc.

PRODUCT IDENTIFICATION

GZ **1608** **D** **121** **T** **F**

| Type | |
|------|-----------------------------------|
| GZ | Chip Ferrite Bead for General Use |

| External Dimensions (L×W) (mm) | |
|--------------------------------|----------|
| 0603 [0201] | 0.6×0.3 |
| 1005 [0402] | 1.0×0.5 |
| 1608 [0603] | 1.6×0.8 |
| 2012 [0805] | 2.0×1.25 |
| 3216 [1206] | 3.2×1.6 |

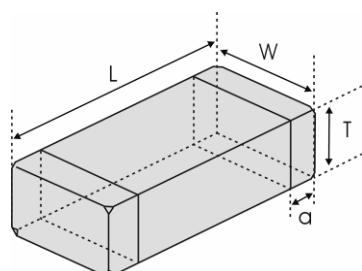
| Material Code | |
|---------------|--|
| D, E, U | |

| Nominal Impedance | |
|-------------------|---------------|
| Example | Nominal Value |
| 300 | 30Ω |
| 121 | 120Ω |
| 102 | 1000Ω |

| Packing | |
|---------|-------------|
| T | Tape & Reel |

| Hazardous Substance Free Products | |
|-----------------------------------|--|
| F | |

SHAPE AND DIMENSIONS



Unit: mm [inch]

| Type | L | W | T | a |
|---------------|--|----------------------|----------------------|-----------------------|
| GZ0603 [0201] | 0.6±0.05 [.024±.002] | 0.3±0.05 [.012±.002] | 0.3±0.05 [.012±.002] | 0.15±0.05 [.006±.002] |
| GZ1005 [0402] | 1.0±0.15 [.039±.006] | 0.5±0.15 [.020±.006] | 0.5±0.15 [.020±.006] | 0.25±0.1 [.010±.004] |
| GZ1608 [0603] | 1.6±0.15 [.063±.006] | 0.8±0.15 [.031±.006] | 0.8±0.15 [.031±.006] | 0.3±0.2 [.012±.008] |
| GZ2012 [0805] | 2.0 (+0.3, -0.1) [.079 (+.012, -.004)] | 1.25±0.2 [.049±.008] | 0.85±0.2 [.033±.008] | 0.5±0.3 [.020±.012] |
| GZ3216 [1206] | 3.2±0.2 [.126±.008] | 1.6±0.2 [.063±.008] | 0.85±0.2 [.033±.008] | 0.5±0.3 [.020±.012] |

SPECIFICATIONS

GZ0603 TYPE

| Part Number | Impedance | Z Test Frequency | Max. DC Resistance | Max. Rated Current | Thickness |
|--------------|-----------|------------------|--------------------|--------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ0603D600TF | 60±25% | 100 | 0.40 | 200 | 0.3±0.05 [.012±.002] |
| GZ0603D800TF | 80±25% | 100 | 0.60 | 200 | |
| GZ0603D121TF | 120±25% | 100 | 0.80 | 200 | |
| GZ0603D241TF | 240±25% | 100 | 1.00 | 200 | |
| GZ0603D601TF | 600±25% | 100 | 1.70 | 200 | |

GZ1005 TYPE

| Part Number | Impedance | Z Test Frequency | Max. DC Resistance | Max. Rated Current | Thickness |
|--------------|-----------|------------------|--------------------|--------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ1005D100TF | 0~15 | 100 | 0.05 | 500 | 0.5±0.15 [.020±.006] |
| GZ1005D310TF | 31±25% | 100 | 0.20 | 300 | |
| GZ1005D600TF | 60±25% | 100 | 0.30 | 200 | |
| GZ1005D800TF | 80±25% | 100 | 0.35 | 200 | |
| GZ1005D121TF | 120±25% | 100 | 0.40 | 200 | |
| GZ1005D221TF | 220±25% | 100 | 0.45 | 150 | |
| GZ1005D301TF | 300±25% | 100 | 0.50 | 100 | |
| GZ1005D421TF | 420±25% | 100 | 0.60 | 100 | |
| GZ1005D501TF | 500±25% | 100 | 0.80 | 100 | |
| GZ1005D601TF | 600±25% | 100 | 0.90 | 100 | |
| GZ1005D751TF | 750±25% | 100 | 1.00 | 100 | |
| GZ1005D102TF | 1000±25% | 100 | 1.20 | 100 | |
| GZ1005D152TF | 1500±25% | 100 | 1.60 | 100 | |
| GZ1005E800TF | 80±25% | 100 | 0.35 | 200 | |
| GZ1005E121TF | 120±25% | 100 | 0.40 | 200 | |
| GZ1005E241TF | 240±25% | 100 | 0.50 | 200 | |
| GZ1005E601TF | 600±25% | 100 | 0.90 | 100 | |
| GZ1005U100TF | 0~15 | 100 | 0.05 | 500 | |
| GZ1005U300TF | 30±25% | 100 | 0.20 | 300 | |
| GZ1005U700TF | 70±25% | 100 | 0.30 | 200 | |
| GZ1005U121TF | 120±25% | 100 | 0.40 | 200 | |
| GZ1005U221TF | 220±25% | 100 | 0.50 | 100 | |
| GZ1005U301TF | 300±25% | 100 | 0.60 | 100 | |
| GZ1005U421TF | 420±25% | 100 | 0.80 | 100 | |
| GZ1005U601TF | 600±25% | 100 | 0.90 | 100 | |
| GZ1005U102TF | 1000±25% | 100 | 1.20 | 100 | |

GZ1608 TYPE

| Part Number | Impedance | Z Test Frequency | Max. DC Resistance | Max. Rated Current | Thickness |
|--------------|-----------|------------------|--------------------|--------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ1608D110TF | 0~15 | 100 | 0.05 | 2000 | 0.8±0.15 [.031±.006] |
| GZ1608D300TF | 30±25% | 100 | 0.05 | 2000 | |
| GZ1608D600TF | 60±25% | 100 | 0.10 | 500 | |
| GZ1608D800TF | 80±25% | 100 | 0.15 | 400 | |
| GZ1608D101TF | 100±25% | 100 | 0.20 | 300 | |
| GZ1608D121TF | 120±25% | 100 | 0.20 | 300 | |

SPECIFICATIONS

GZ1608 TYPE

| Part Number | Impedance | Z Test Frequency | Max.DC Resistance | Max.Rated Current | Thickness |
|--------------|-----------|------------------|-------------------|-------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ1608D221TF | 220±25% | 100 | 0.30 | 300 | 0.8±0.15 [.031±.006] |
| GZ1608D301TF | 300±25% | 100 | 0.35 | 200 | |
| GZ1608D471TF | 470±25% | 100 | 0.45 | 200 | |
| GZ1608D601TF | 600±25% | 100 | 0.45 | 200 | |
| GZ1608D751TF | 750±25% | 100 | 0.50 | 200 | |
| GZ1608D102TF | 1000±25% | 100 | 0.60 | 200 | |
| GZ1608D152TF | 1500±25% | 100 | 0.70 | 150 | |
| GZ1608D182TF | 1800±25% | 100 | 0.90 | 100 | |
| GZ1608D202TF | 2000±25% | 100 | 1.20 | 100 | |
| GZ1608D222TF | 2200±25% | 100 | 1.20 | 100 | |
| GZ1608E121TF | 120±25% | 100 | 0.20 | 300 | |
| GZ1608E181TF | 180±25% | 100 | 0.30 | 300 | |
| GZ1608E601TF | 600±25% | 100 | 0.45 | 200 | |
| GZ1608E102TF | 1000±25% | 100 | 0.60 | 200 | |
| GZ1608U100TF | 0~15 | 100 | 0.05 | 2000 | |
| GZ1608U300TF | 30±25% | 100 | 0.05 | 2000 | |
| GZ1608U600TF | 60±25% | 100 | 0.10 | 500 | |
| GZ1608U121TF | 120±25% | 100 | 0.20 | 300 | |
| GZ1608U221TF | 220±25% | 100 | 0.30 | 300 | |
| GZ1608U301TF | 300±25% | 100 | 0.35 | 200 | |
| GZ1608U471TF | 470±25% | 100 | 0.40 | 200 | |
| GZ1608U601TF | 600±25% | 100 | 0.50 | 200 | |
| GZ1608U102TF | 1000±25% | 100 | 0.60 | 200 | |

GZ2012 TYPE

| Part Number | Impedance | Z Test Frequency | Max.DC Resistance | Max.Rated Current | Thickness |
|--------------|-----------|------------------|-------------------|-------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ2012D070TF | 0~15 | 100 | 0.04 | 2000 | 0.85±0.2 [.033±.008] |
| GZ2012D190TF | 19±25% | 100 | 0.04 | 2000 | |
| GZ2012D300TF | 30±25% | 100 | 0.05 | 1500 | |
| GZ2012D800TF | 80±25% | 100 | 0.10 | 1000 | |
| GZ2012D121TF | 120±25% | 100 | 0.15 | 800 | |
| GZ2012D181TF | 180±25% | 100 | 0.18 | 700 | |
| GZ2012D221TF | 220±25% | 100 | 0.20 | 600 | |
| GZ2012D301TF | 300±25% | 100 | 0.20 | 500 | |
| GZ2012D421TF | 420±25% | 100 | 0.30 | 500 | |
| GZ2012D501TF | 500±25% | 100 | 0.30 | 500 | |
| GZ2012D601TF | 600±25% | 100 | 0.30 | 500 | |
| GZ2012D751TF | 750±25% | 100 | 0.35 | 500 | |
| GZ2012D102TF | 1000±25% | 100 | 0.35 | 500 | |
| GZ2012D152TF | 1500±25% | 100 | 0.40 | 500 | |
| GZ2012D202TF | 2000±25% | 100 | 0.50 | 500 | |
| GZ2012E800TF | 80±25% | 100 | 0.10 | 1000 | |
| GZ2012E181TF | 180±25% | 100 | 0.20 | 600 | |
| GZ2012E301TF | 300±25% | 100 | 0.20 | 500 | |
| GZ2012E501TF | 500±25% | 100 | 0.30 | 500 | |
| GZ2012E601TF | 600±25% | 100 | 0.30 | 500 | |
| GZ2012E102TF | 1000±25% | 100 | 0.35 | 500 | |

SPECIFICATIONS

GZ2012 TYPE

| Part Number | Impedance | Z Test Frequency | Max.DC Resistance | Max.Rated Current | Thickness |
|--------------|-----------|------------------|-------------------|-------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ2012U100TF | 0~15 | 100 | 0.04 | 2200 | 0.85±0.2 [.033±.008] |
| GZ2012U170TF | 17±25% | 100 | 0.04 | 2000 | |
| GZ2012U300TF | 30±25% | 100 | 0.05 | 1500 | |
| GZ2012U700TF | 70±25% | 100 | 0.10 | 1000 | |
| GZ2012U121TF | 120±25% | 100 | 0.15 | 800 | |
| GZ2012U221TF | 220±25% | 100 | 0.20 | 600 | |
| GZ2012U301TF | 300±25% | 100 | 0.20 | 500 | |
| GZ2012U421TF | 420±25% | 100 | 0.25 | 500 | |
| GZ2012U601TF | 600±25% | 100 | 0.30 | 500 | |
| GZ2012U102TF | 1000±25% | 100 | 0.40 | 500 | |

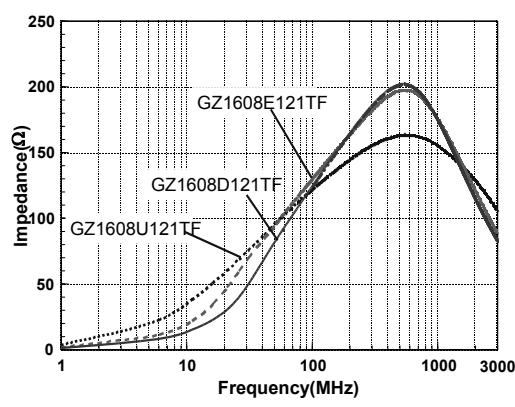
GZ3216 TYPE

| Part Number | Impedance | Z Test Frequency | Max.DC Resistance | Max.Rated Current | Thickness |
|--------------|-----------|------------------|-------------------|-------------------|-------------------------|
| Units | Ω | MHz | Ω | mA | mm [inch] |
| Symbol | Z | Freq. | DCR | Ir | T |
| GZ3216D000TF | 0~15 | 100 | 0.03 | 2200 | 0.85±0.2 [.033±.008] |
| GZ3216D310TF | 31±25% | 100 | 0.05 | 2000 | |
| GZ3216D600TF | 60±25% | 100 | 0.10 | 1000 | |
| GZ3216D800TF | 80±25% | 100 | 0.10 | 1000 | |
| GZ3216D121TF | 120±25% | 100 | 0.10 | 1000 | |
| GZ3216D221TF | 220±25% | 100 | 0.20 | 600 | |
| GZ3216D301TF | 300±25% | 100 | 0.20 | 600 | |
| GZ3216D501TF | 500±25% | 100 | 0.30 | 600 | |
| GZ3216D601TF | 600±25% | 100 | 0.30 | 600 | |
| GZ3216D102TF | 1000±25% | 100 | 0.60 | 500 | |
| GZ3216D122TF | 1200±25% | 100 | 0.60 | 300 | |
| GZ3216U601TF | 600±25% | 100 | 0.30 | 600 | |

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

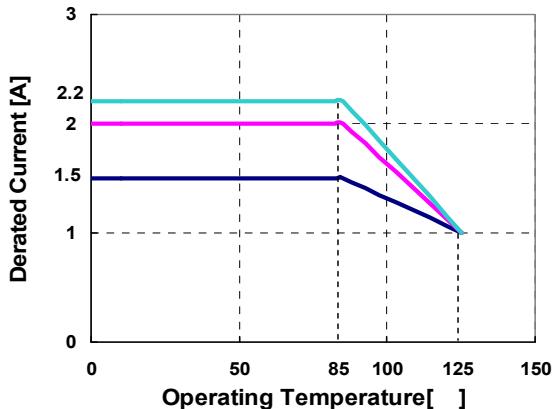
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



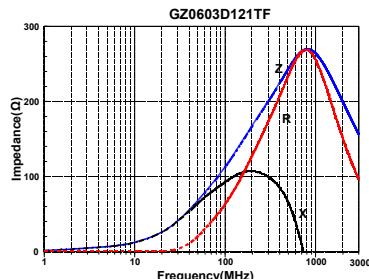
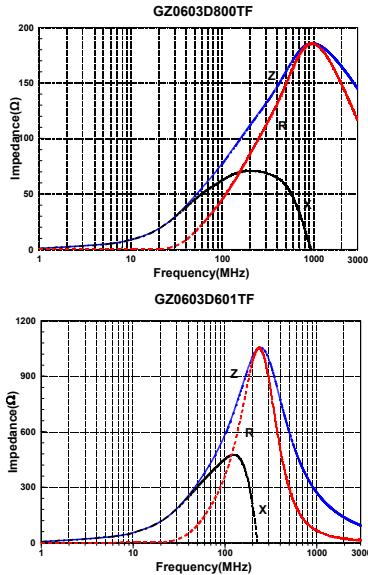
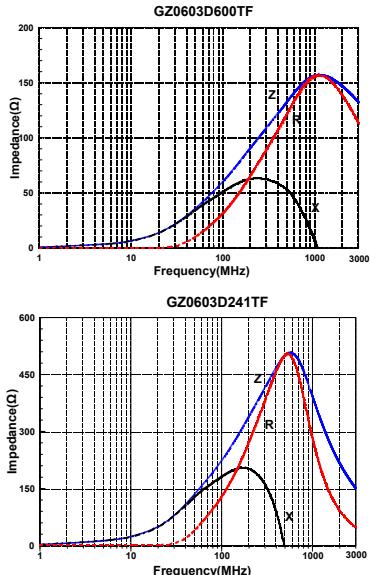
Rated Current

When operating temperatures exceeding +85°C, derating of current is necessary for chip ferrite beads for which rated current is 1000mA over. Please apply the derating curve shown in chart according to the operating temperature.

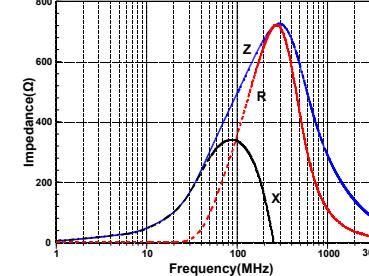
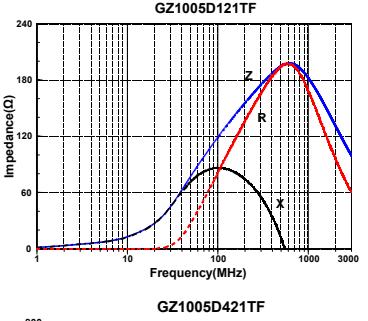
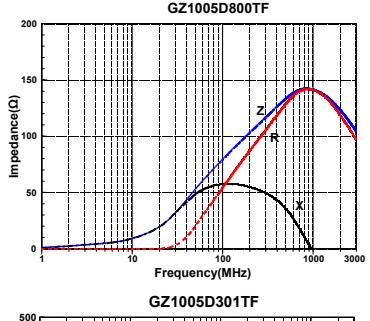
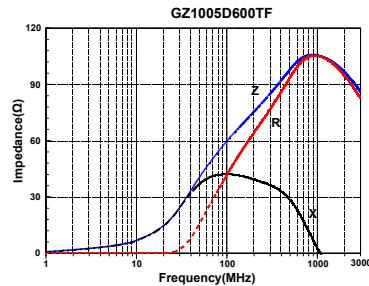
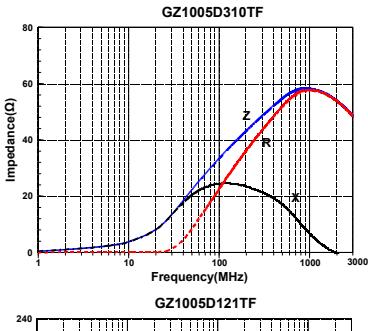
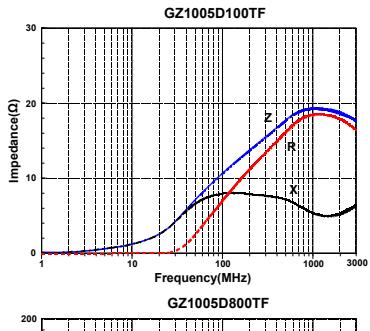


DETAIL ELECTRICAL CHARACTERISTICS

GZ0603 TYPE



GZ1005 TYPE



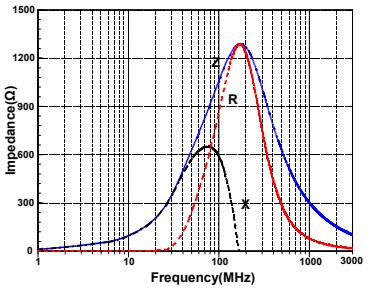
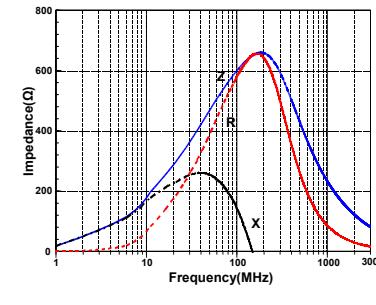
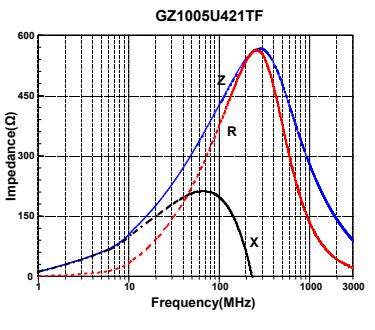
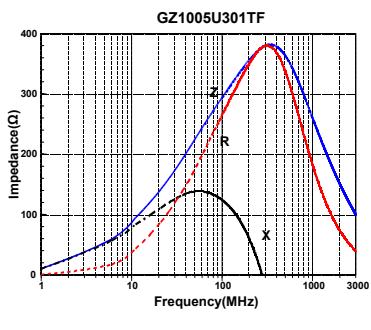
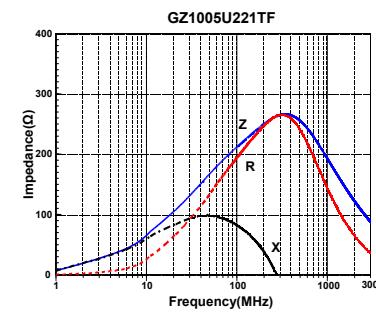
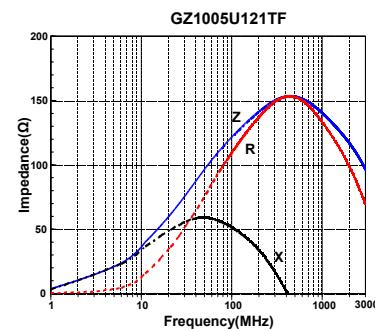
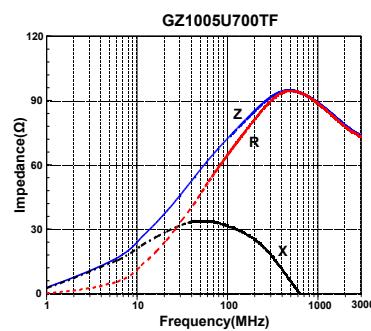
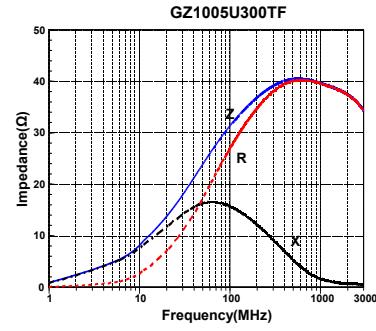
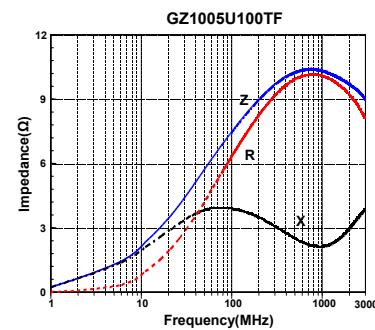
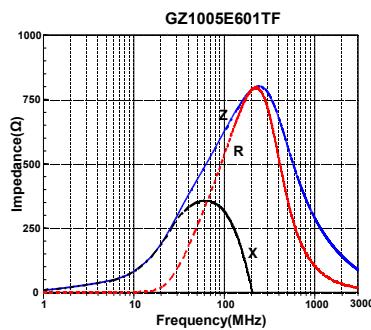
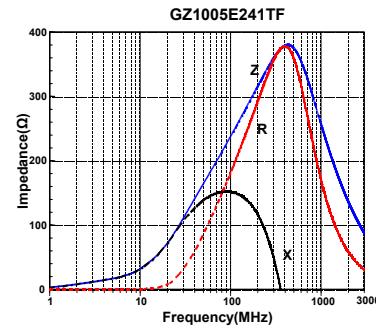
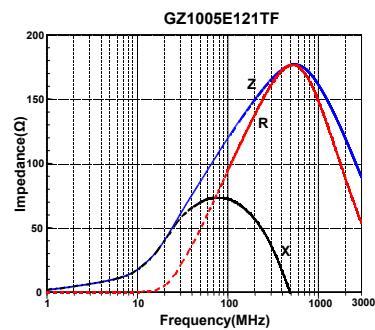
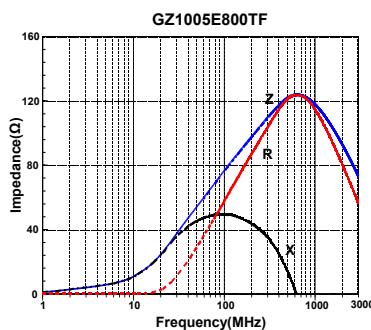
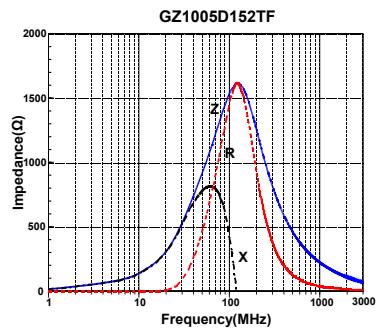
Sunlord

Specifications subject to change without notice. Please check our website for latest information. Revised 2013/10/15

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DETAIL ELECTRICAL CHARACTERISTICS

GZ1005 TYPE



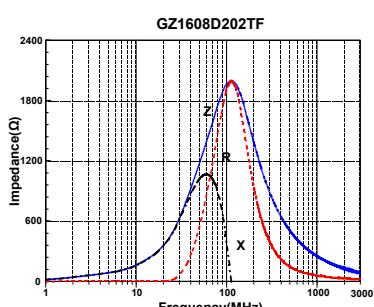
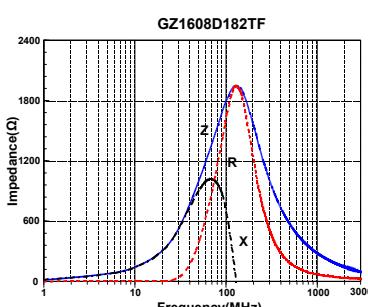
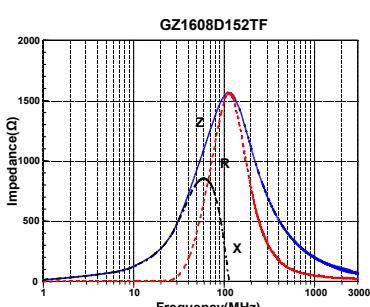
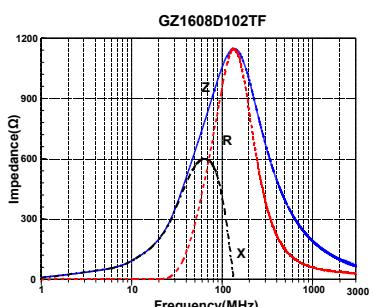
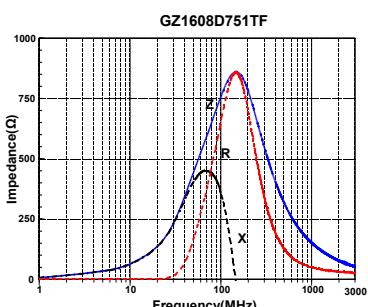
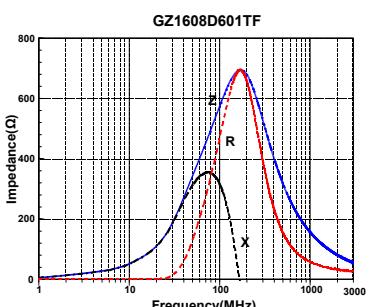
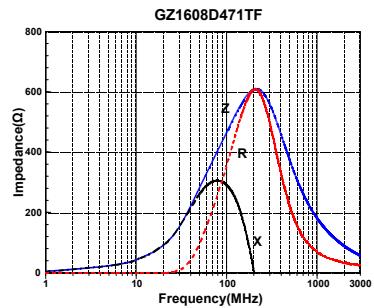
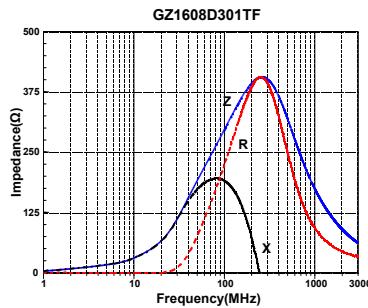
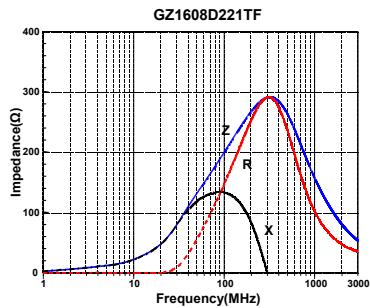
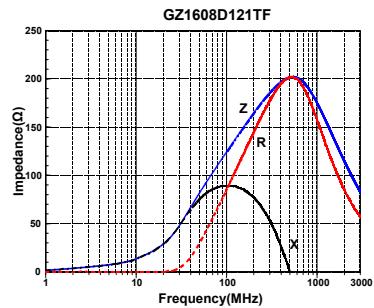
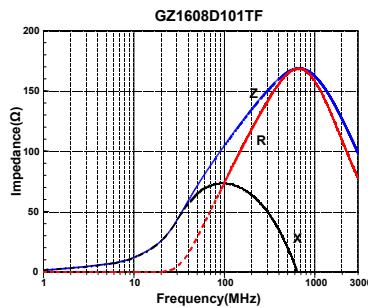
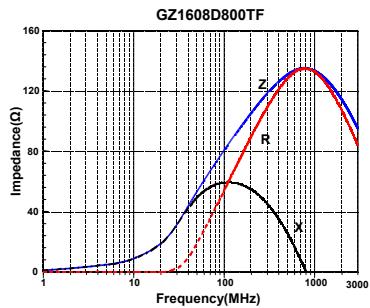
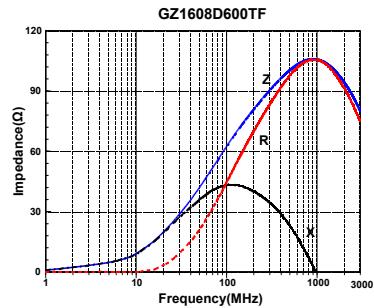
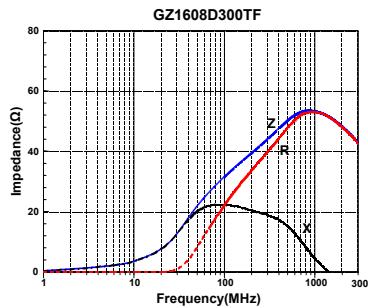
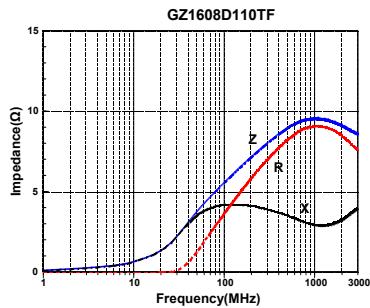
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DETAIL ELECTRICAL CHARACTERISTICS

GZ1608 TYPE



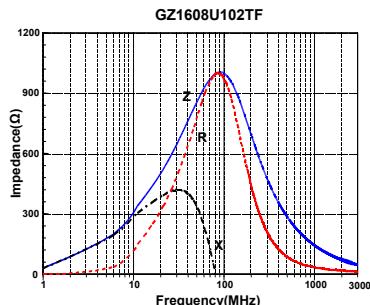
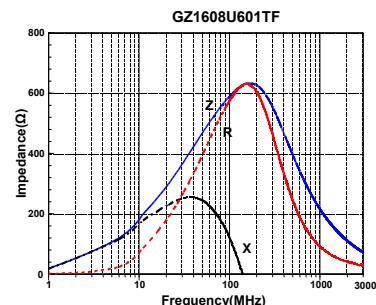
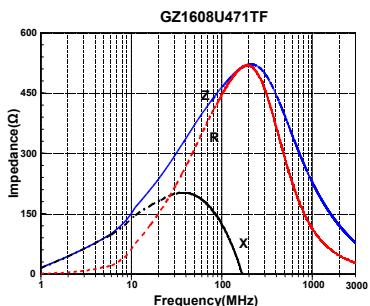
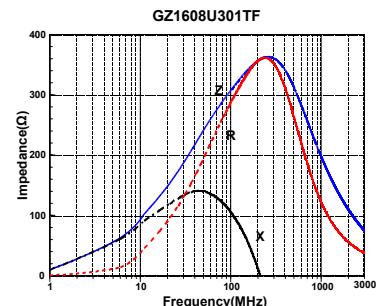
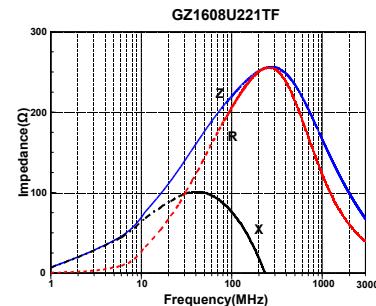
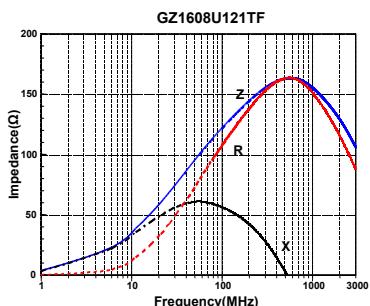
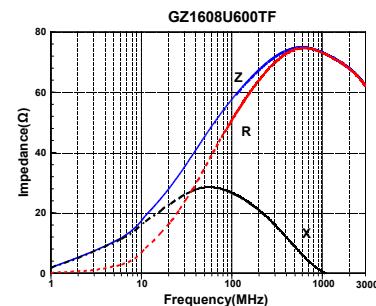
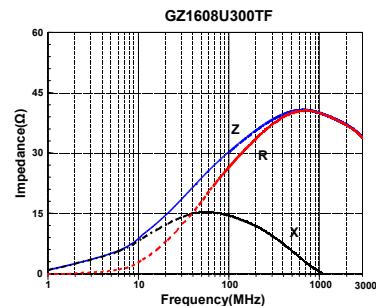
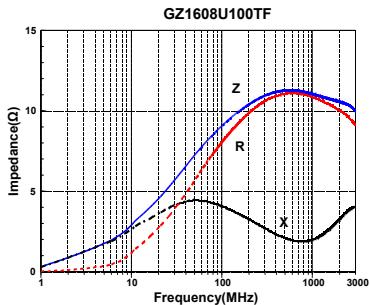
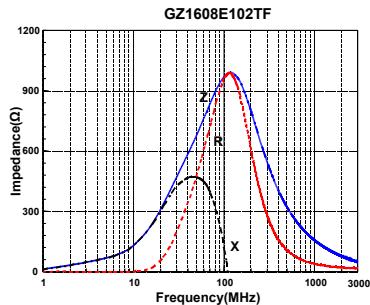
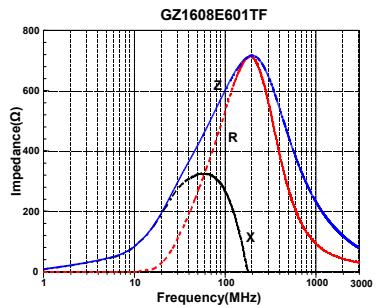
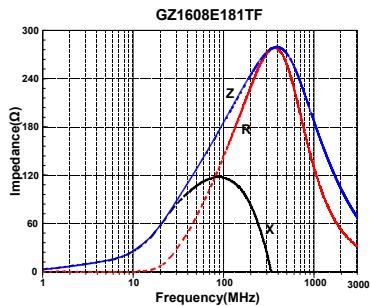
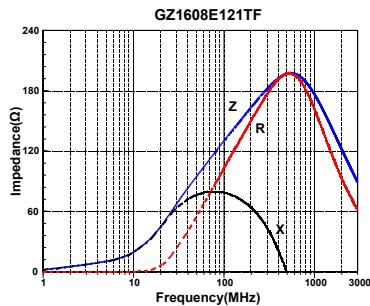
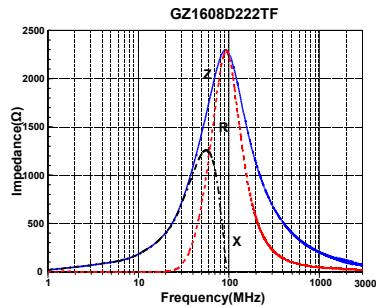
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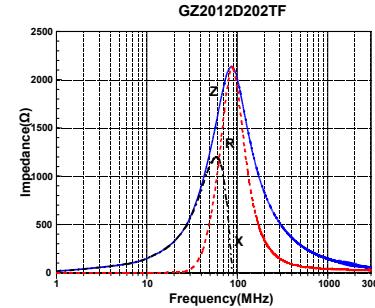
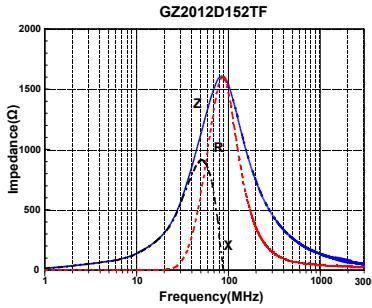
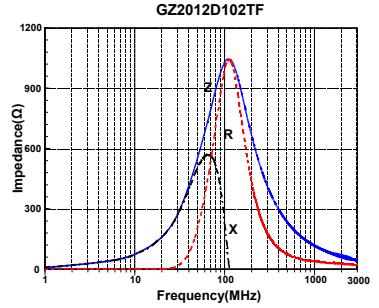
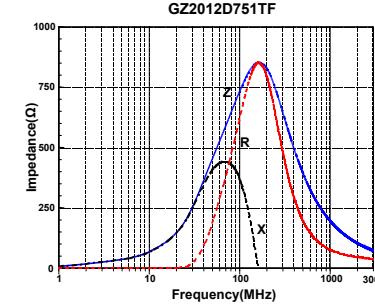
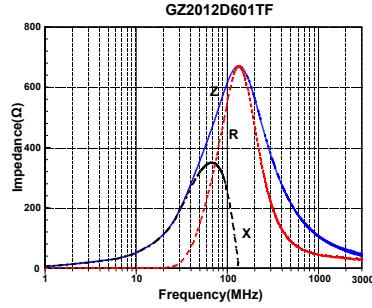
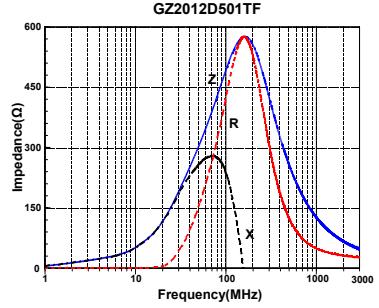
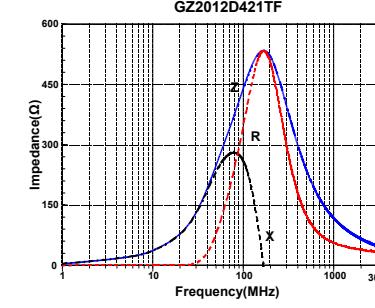
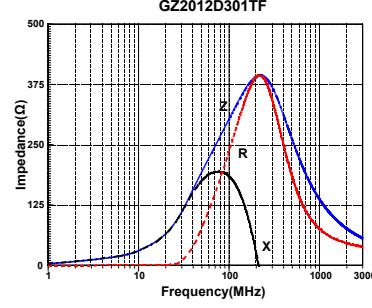
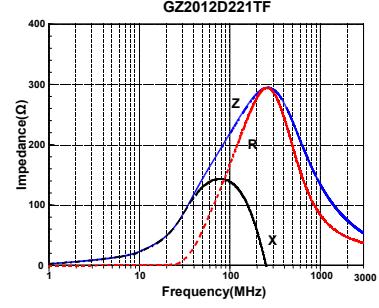
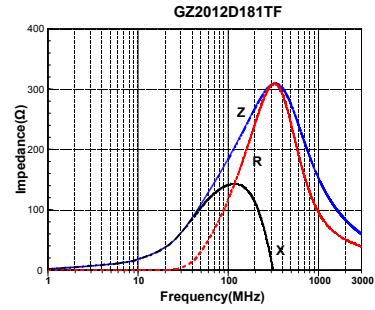
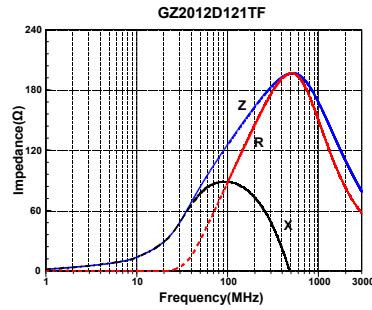
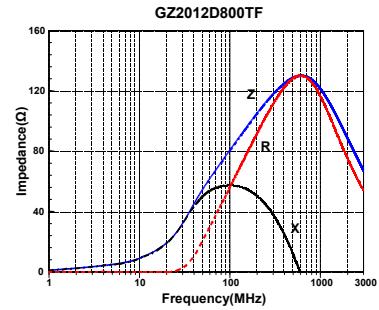
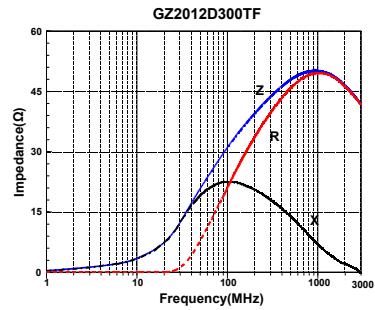
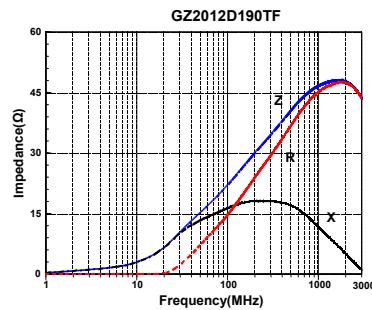
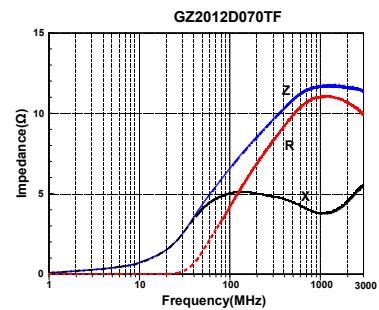
DETAIL ELECTRICAL CHARACTERISTICS

GZ1608 TYPE



DETAIL ELECTRICAL CHARACTERISTICS

GZ2012 TYPE



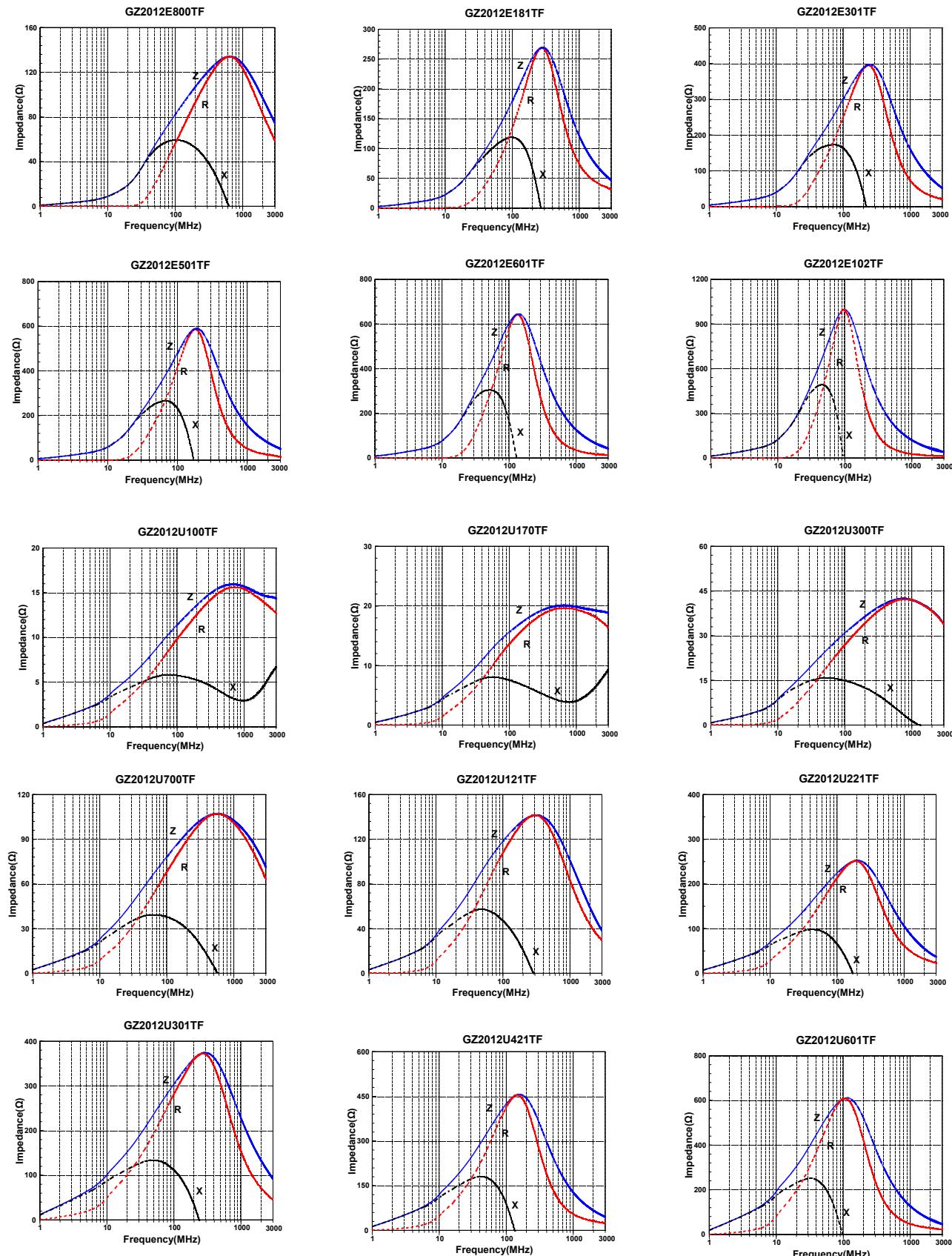
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DETAIL ELECTRICAL CHARACTERISTICS

GZ2012 TYPE



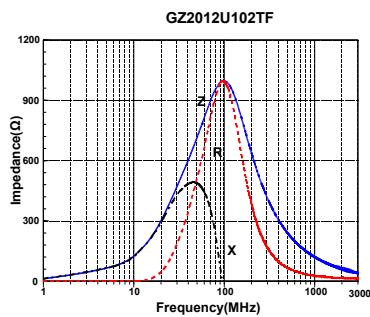
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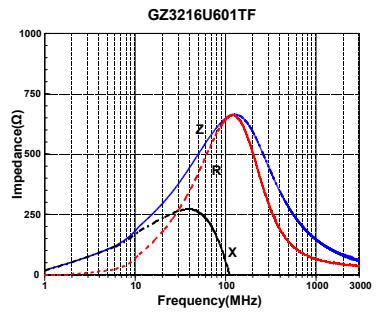
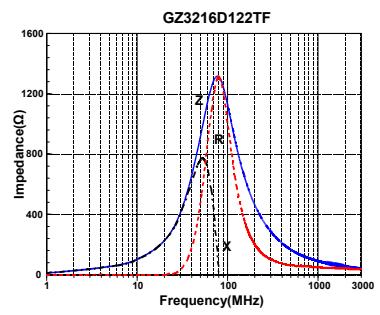
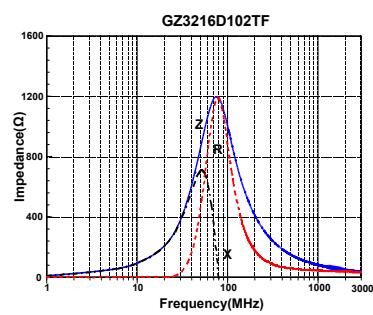
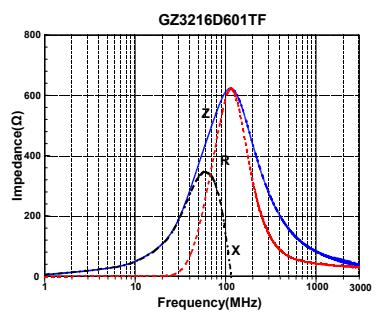
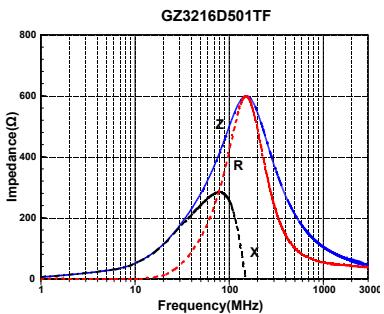
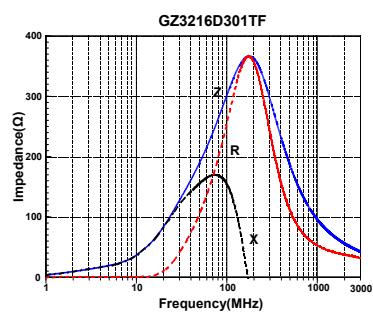
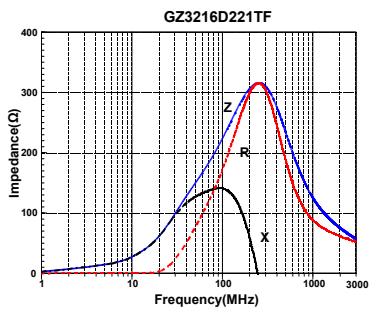
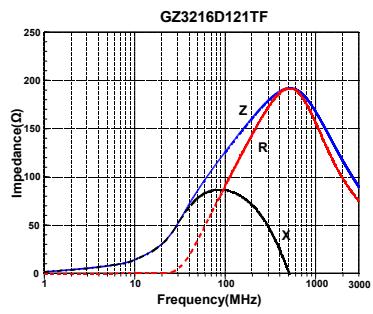
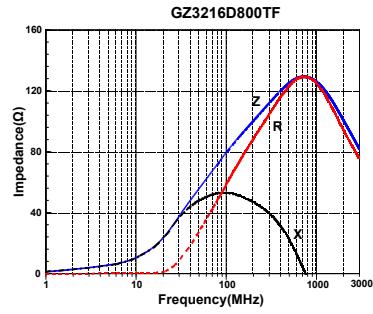
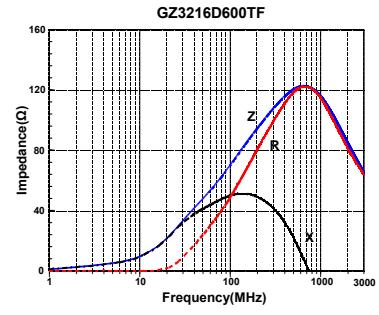
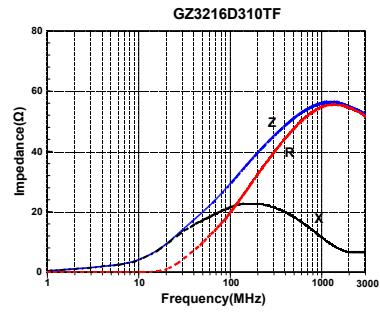
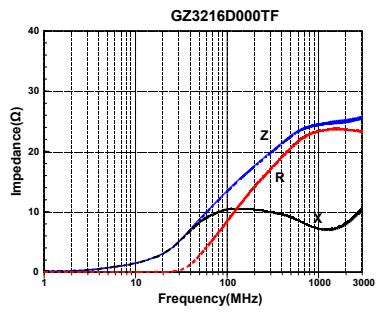
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DETAIL ELECTRICAL CHARACTERISTICS

GZ2012 TYPE



GZ3216 TYPE



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PACKAGING

| Type | Tape Width | Reel Diameter | Quantity (pcs) |
|------------|------------|---------------|----------------|
| 0603[0201] | 8mm | 178mm | 15K |
| 1005[0402] | 8mm | 178mm | 10K |
| 1608[0603] | 8mm | 178mm | 4K |
| 2012[0805] | 8mm | 178mm | 4K |

RECOMMENDED SOLDERING TECHNOLOGIES

Re-flowing Profile:

Preheat condition: 150 ~200 /60~120sec.

Allowed time above 217 : 60~90sec.

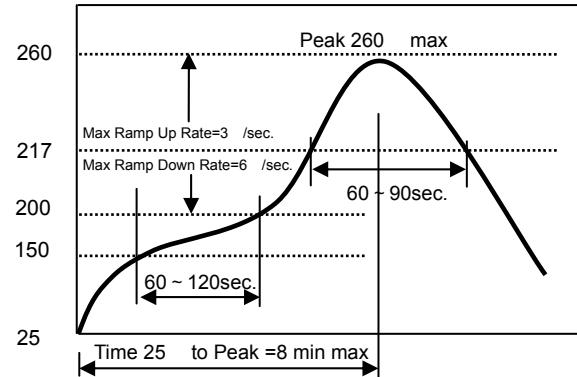
Max temp: 260

Max time at max temp: 10sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max

[Note: The reflow profile in the above table is only for qualification and is not meant to specify board assembly profiles. Actual board assembly profiles must be based on the customer's specific board design, solder paste and process, and should not exceed the parameters as the Reflow profile shows.]



Iron Soldering Profile.

Iron soldering power: Max.30W

Pre-heating: 150 /60 sec.

Soldering Tip temperature: 350 Max.

Soldering time: 3sec Max.

Solder paste: Sn/3.0Ag/0.5Cu

Max.1 times for iron soldering

[Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.]

