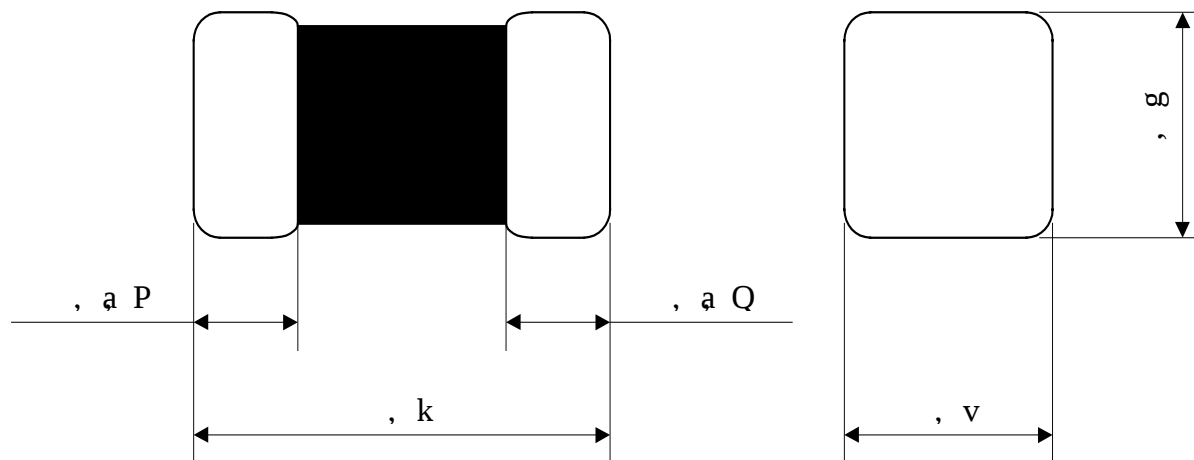


# *TDK's New Winding Type Chip Inductor*

## **GLF, GLC Series**

| Height[mm]<br>Area[mm <sup>2</sup> ] |           | 0.80mm                                                                        | 1.25mm                                                                         | 1.80mm                                                                       |
|--------------------------------------|-----------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1.28mm <sup>2</sup>                  | 1.60X0.80 | <b>GLF1608Type</b><br>L:1uH to 22uH<br>Rdc:0.70ohm(10uH)<br>Idc:90mA(10uH)    |                                                                                | GLF_Type:Low Rdc Type                                                        |
|                                      |           |                                                                               |                                                                                | GLF_Type:Low Profile Type                                                    |
|                                      |           |                                                                               |                                                                                | GLC_Type:High Idc Type                                                       |
| 2.50mm <sup>2</sup>                  | 2.00X1.25 | <b>GLF201208Type</b><br>L:1uH to 47uH<br>Rdc:1.10ohm(10uH)<br>Idc:170mA(10uH) | <b>GLF2012Type</b><br>L:1uH to 100uH<br>Rdc:0.36ohm(10uH)<br>Idc:140mA(10uH)   |                                                                              |
| 4.50mm <sup>2</sup>                  | 2.50X1.80 |                                                                               | <b>GLF251812Type</b><br>L:1uH to 100uH<br>Rdc:0.60ohm(10uH)<br>Idc:325mA(10uH) | <b>GLF2518Type</b><br>L:1uH to 100uH<br>Rdc:0.20ohm(10uH)<br>Idc:210mA(10uH) |
|                                      |           |                                                                               |                                                                                | <b>GLC2518Type</b><br>L:1uH to 100uH<br>Rdc:0.30ohm(10uH)<br>Idc:300mA(10uH) |



|                      | L<br>[mm]<br>±0.10 | W<br>[mm]<br>±0.10 | H<br>[mm]<br>±0.10 | B1<br>[mm]<br>±0.15 | B2<br>[mm]<br>±0.15 | Weight<br>[mg] |
|----------------------|--------------------|--------------------|--------------------|---------------------|---------------------|----------------|
| <b>GLF1608Type</b>   | <b>1.60</b>        | <b>0.80</b>        | <b>0.80</b>        | <b>0.40</b>         | <b>0.40</b>         | <b>5mg</b>     |
| <b>GLF2012Type</b>   | <b>2.00</b>        | <b>1.25</b>        | <b>1.25</b>        | <b>0.50</b>         | <b>0.50</b>         | <b>15mg</b>    |
| <b>GLF2518Type</b>   | <b>2.50</b>        | <b>1.80</b>        | <b>1.80</b>        | <b>0.60</b>         | <b>0.60</b>         | <b>35mg</b>    |
| <b>GLF201208Type</b> | <b>2.00</b>        | <b>1.25</b>        | <b>0.80</b>        | <b>0.45</b>         | <b>0.45</b>         | <b>10mg</b>    |
| <b>GLF251812Type</b> | <b>2.50</b>        | <b>1.80</b>        | <b>1.25</b>        | <b>0.50</b>         | <b>0.50</b>         | <b>25mg</b>    |
| <b>GLC2518Type</b>   | <b>2.50</b>        | <b>1.80</b>        | <b>1.80</b>        | <b>0.60</b>         | <b>0.60</b>         | <b>35mg</b>    |

| ITEM         | Inductance<br>&<br>Tolerance | Rdc[ohm]<br><br>±30% | Idc[mA]           |                   |                              |
|--------------|------------------------------|----------------------|-------------------|-------------------|------------------------------|
|              |                              |                      | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLF1608T1R0M | 1.0μH±20%                    | 0.17                 | 125               | 220               | 400                          |
| GLF1608T2R2M | 2.2μH±20%                    | 0.33                 | 85                | 160               | 275                          |
| GLF1608T4R7M | 4.7μH±20%                    | 0.55                 | 70                | 115               | 220                          |
| GLF1608T100M | 10μH±20%                     | 0.70                 | 50                | 90                | 180                          |
| GLF1608T220M | 22μH±20%                     | 3.00                 | 35                | 60                | 100                          |

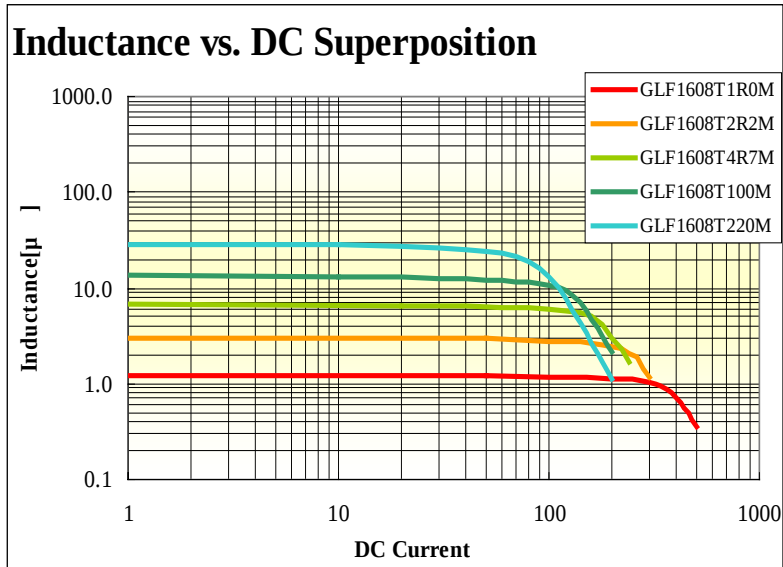
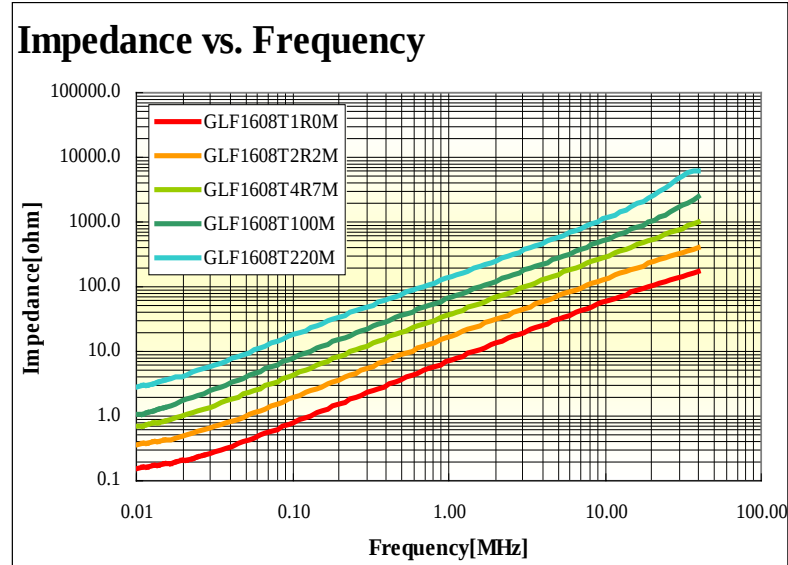
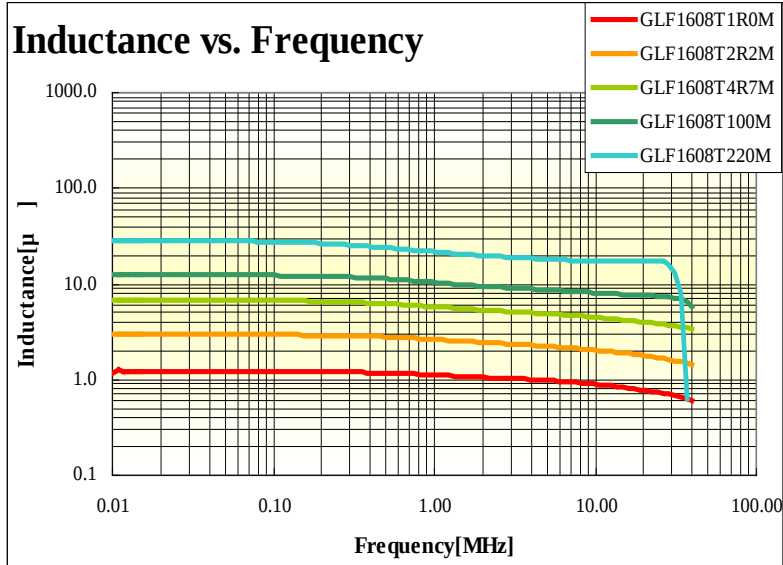
| ITEM         | Inductance<br>&<br>Tolerance | Rdc[ohm]<br><br>±30% | Idc[mA]           |                   |                              |
|--------------|------------------------------|----------------------|-------------------|-------------------|------------------------------|
|              |                              |                      | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLF2012T1R0M | 1.0μH±20%                    | 0.07                 | 275               | 400               | 850                          |
| GLF2012T2R2M | 2.2μH±20%                    | 0.10                 | 210               | 300               | 700                          |
| GLF2012T4R7M | 4.7μH±20%                    | 0.24                 | 120               | 200               | 450                          |
| GLF2012T100K | 10μH±10%                     | 0.36                 | 100               | 140               | 360                          |
| GLF2012T220K | 22μH±10%                     | 1.00                 | 75                | 100               | 220                          |
| GLF2012T470K | 47μH±10%                     | 1.70                 | 50                | 75                | 170                          |
| GLF2012T101K | 100μH±10%                    | 4.00                 | 30                | 50                | 110                          |

| ITEM         | Inductance<br>&<br>Tolerance | Rdc[ohm] | Idc[mA]           |                   |                              |
|--------------|------------------------------|----------|-------------------|-------------------|------------------------------|
|              |                              |          | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLF2518T1R0M | 1.0μH±20%                    | 0.05±30% | 500               | 675               | 1200                         |
| GLF2518T2R2M | 2.2μH±20%                    | 0.08±30% | 340               | 450               | 950                          |
| GLF2518T4R7M | 4.7μH±20%                    | 0.11±30% | 240               | 320               | 800                          |
| GLF2518T100K | 10μH±10%                     | 0.20±20% | 165               | 210               | 600                          |
| GLF2518T220K | 22μH±10%                     | 0.45±20% | 115               | 150               | 400                          |
| GLF2518T470K | 47μH±10%                     | 0.85±20% | 85                | 100               | 275                          |
| GLF2518T101K | 100μH±10%                    | 1.90±20% | 55                | 75                | 175                          |

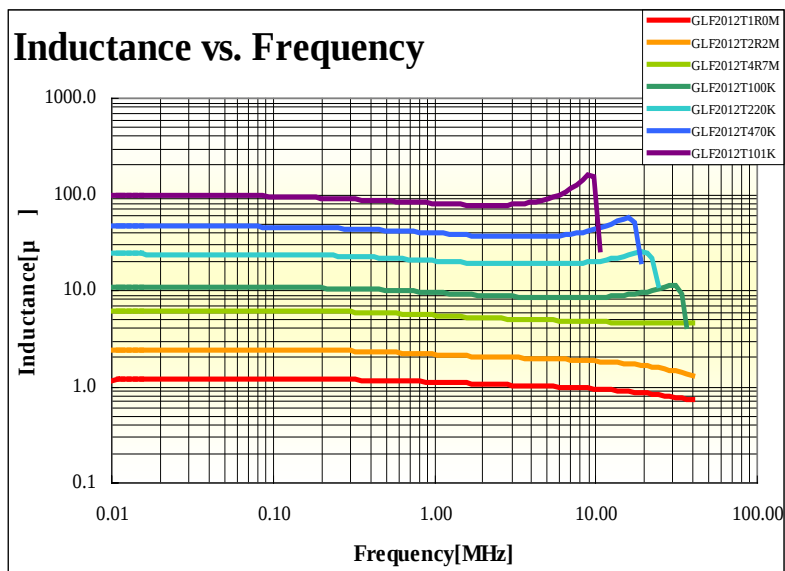
| ITEM           | Inductance<br>&<br>Tolerance | Rdc[ohm] | Idc[mA]           |                   |                              |
|----------------|------------------------------|----------|-------------------|-------------------|------------------------------|
|                |                              |          | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLF201208T1R0M | 1.0μH±20%                    | 0.19±20% | 340               | 460               | 650                          |
| GLF201208T2R2M | 2.2μH±20%                    | 0.56±20% | 220               | 300               | 350                          |
| GLF201208T4R7M | 4.7μH±20%                    | 0.74±20% | 160               | 230               | 300                          |
| GLF201208T100M | 10μH±20%                     | 1.10±20% | 130               | 170               | 250                          |
| GLF201208T220M | 22μH±20%                     | 3.50±20% | 80                | 110               | 150                          |
| GLF201208T470M | 47μH±20%                     | 5.30±20% | 60                | 90                | 120                          |

| ITEM           | Inductance<br>&<br>Tolerance | Rdc[ohm] | Idc[mA]           |                   |                              |
|----------------|------------------------------|----------|-------------------|-------------------|------------------------------|
|                |                              |          | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLF251812T1R0M | 1.0μH±20%                    | 0.10±20% | 650               | 800               | 900                          |
| GLF251812T2R2M | 2.2μH±20%                    | 0.20±20% | 450               | 600               | 625                          |
| GLF251812T4R7M | 4.7μH±20%                    | 0.38±20% | 275               | 450               | 450                          |
| GLF251812T100M | 10μH±20%                     | 0.60±20% | 200               | 325               | 350                          |
| GLF251812T220M | 22μH±20%                     | 1.20±20% | 140               | 250               | 250                          |
| GLF251812T470M | 47μH±20%                     | 2.50±20% | 100               | 175               | 175                          |
| GLF251812T101M | 100μH±20%                    | 4.70±20% | 80                | 125               | 125                          |

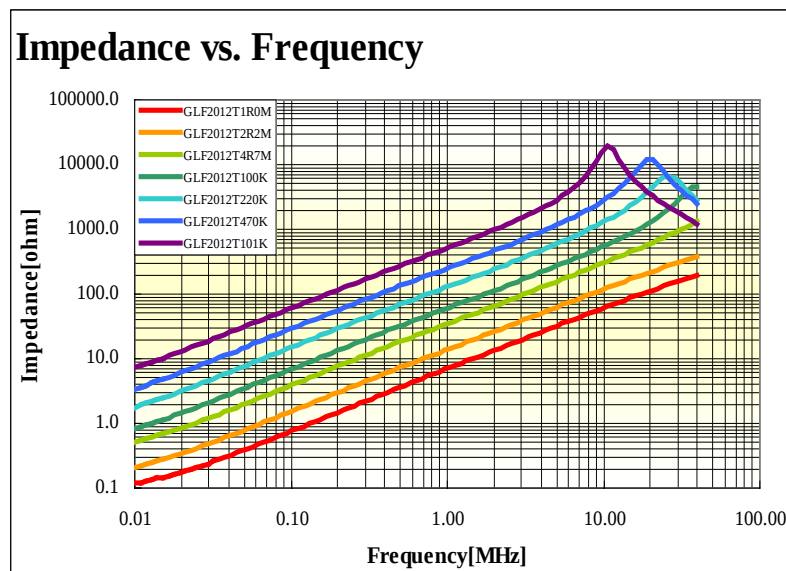
| ITEM         | Inductance<br>&<br>Tolerance | Rdc[ohm] | Idc[mA]           |                   |                              |
|--------------|------------------------------|----------|-------------------|-------------------|------------------------------|
|              |                              |          | L:10%Down<br>Max. | L:20%Down<br>Max. | temp. has to 20Deg.C<br>Max. |
| GLC2518T1R0M | 1.0μH±20%                    | 0.08±30% | 850               | -----             | 980                          |
| GLC2518T2R2M | 2.2μH±20%                    | 0.13±30% | 650               | -----             | 750                          |
| GLC2518T4R7M | 4.7μH±20%                    | 0.20±30% | 475               | -----             | 600                          |
| GLC2518T100K | 10μH±10%                     | 0.36±20% | 350               | -----             | 470                          |
| GLC2518T220K | 22μH±10%                     | 0.90±20% | 225               | -----             | 300                          |
| GLC2518T470K | 47μH±10%                     | 1.90±20% | 170               | -----             | 200                          |
| GLC2518T101K | 100μH±10%                    | 3.50±20% | 110               | -----             | 150                          |



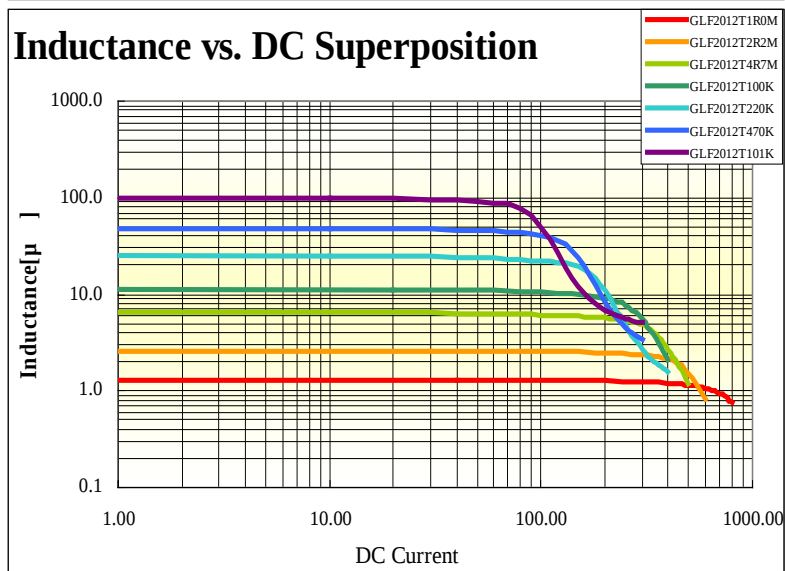
## Inductance vs. Frequency



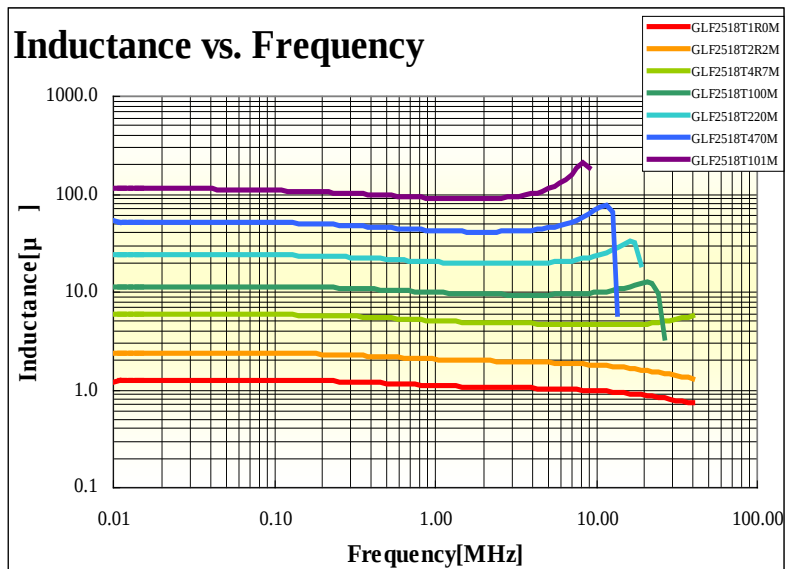
## Impedance vs. Frequency



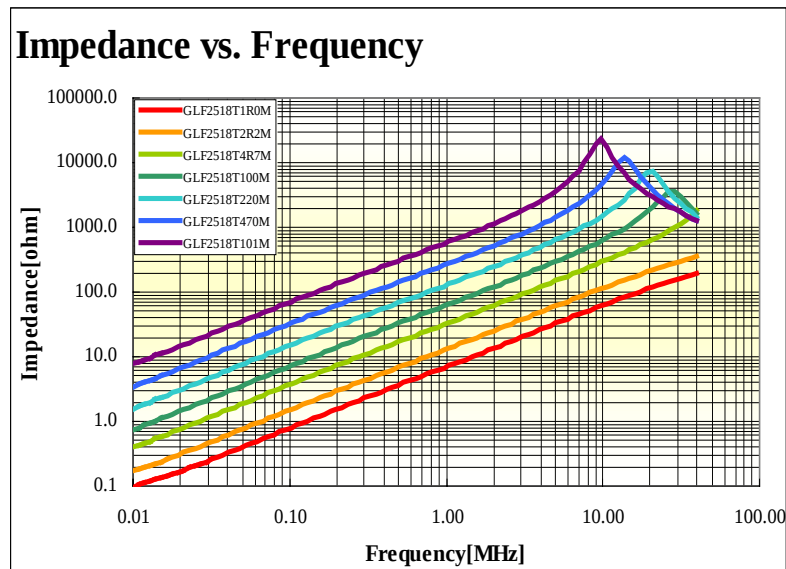
## Inductance vs. DC Superposition



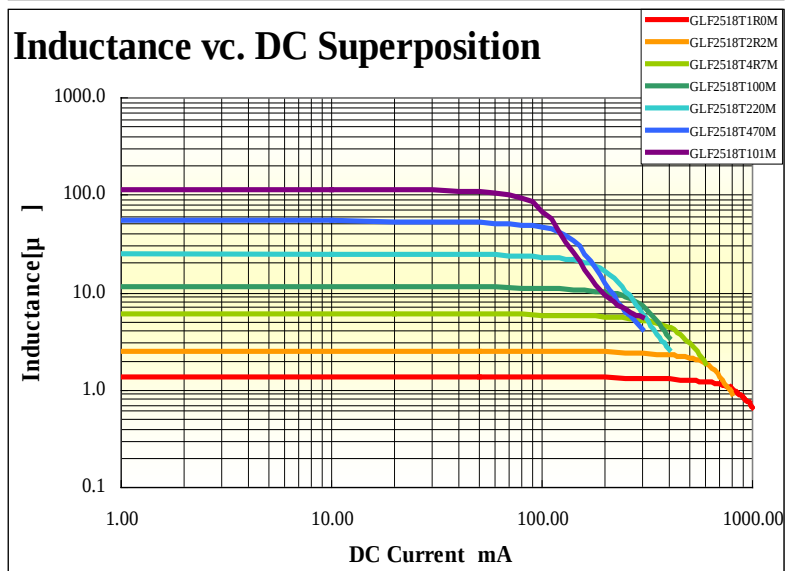
## Inductance vs. Frequency



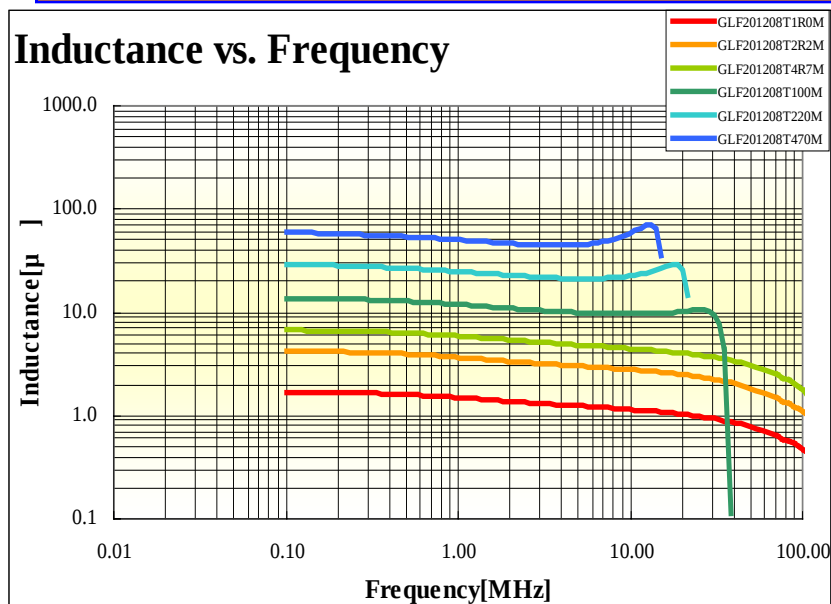
## Impedance vs. Frequency



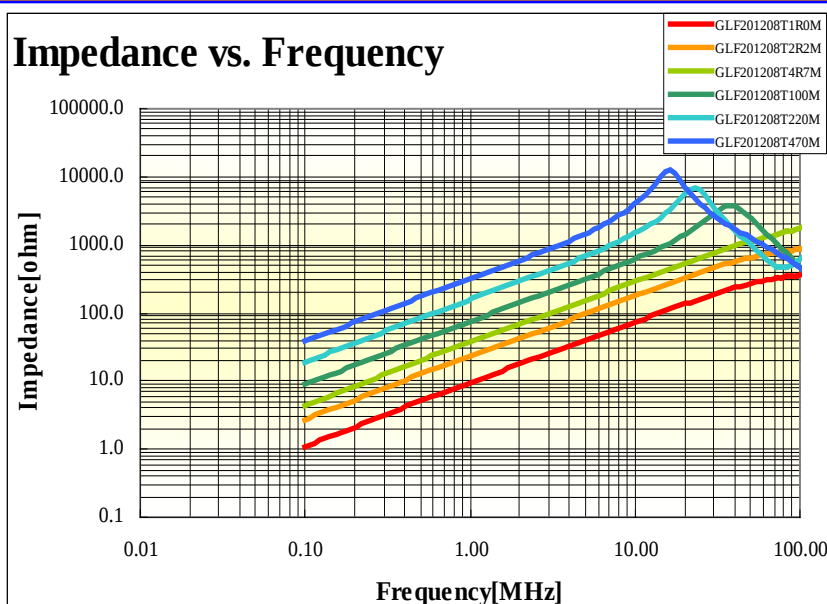
## Inductance vs. DC Superposition



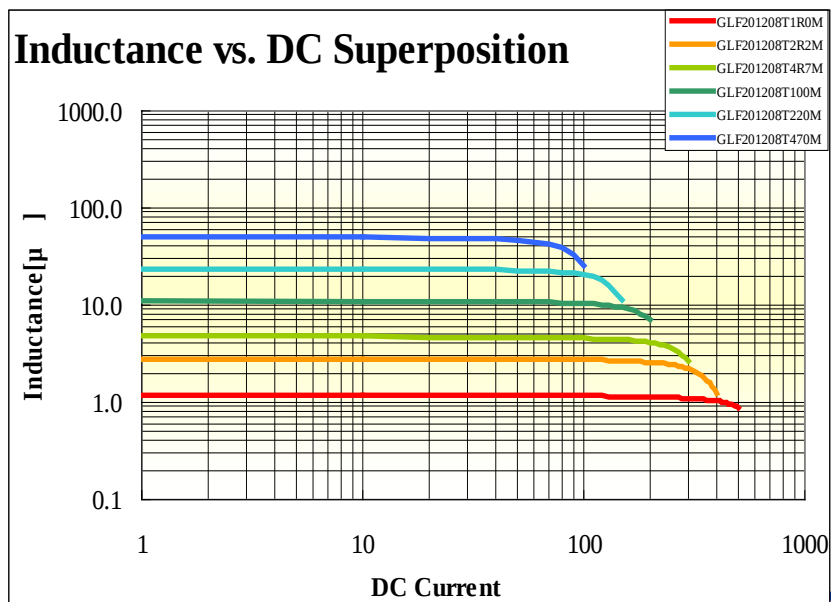
## Inductance vs. Frequency



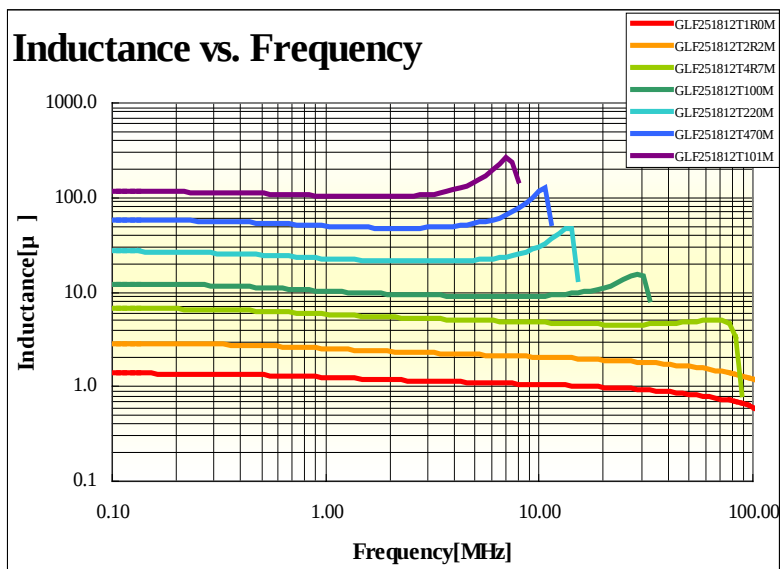
## Impedance vs. Frequency



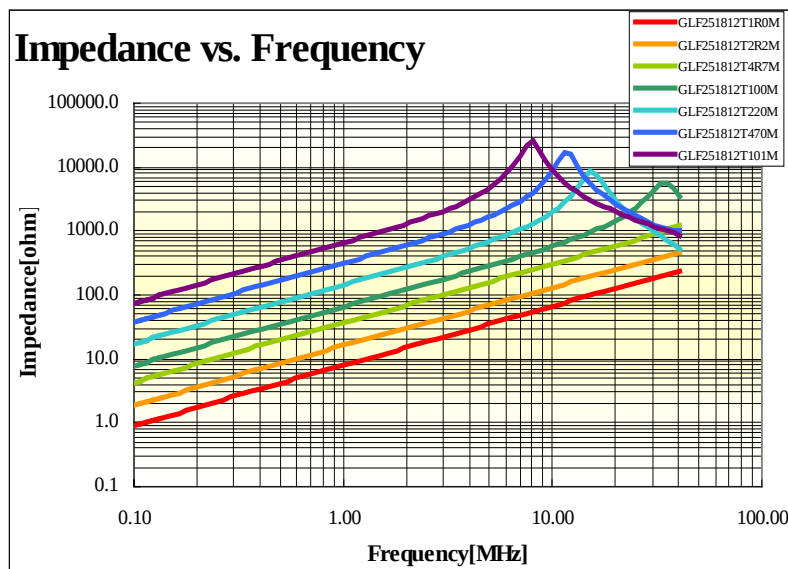
## Inductance vs. DC Superposition



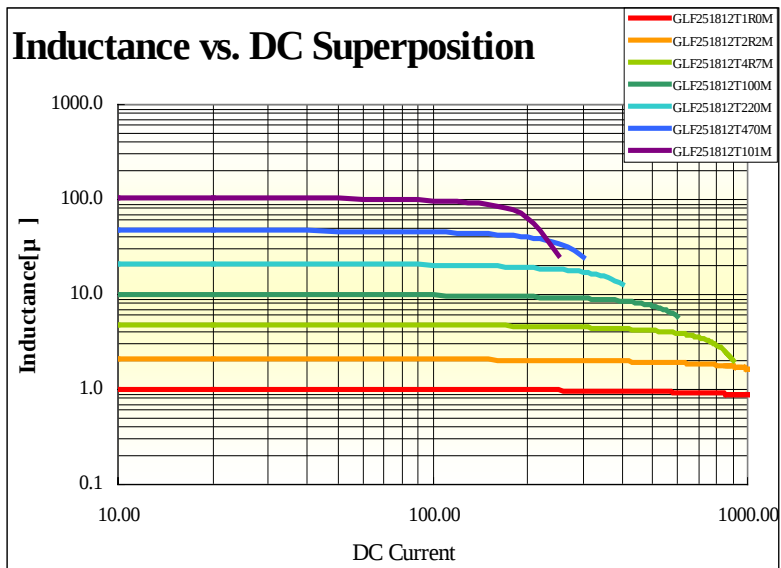
## Inductance vs. Frequency



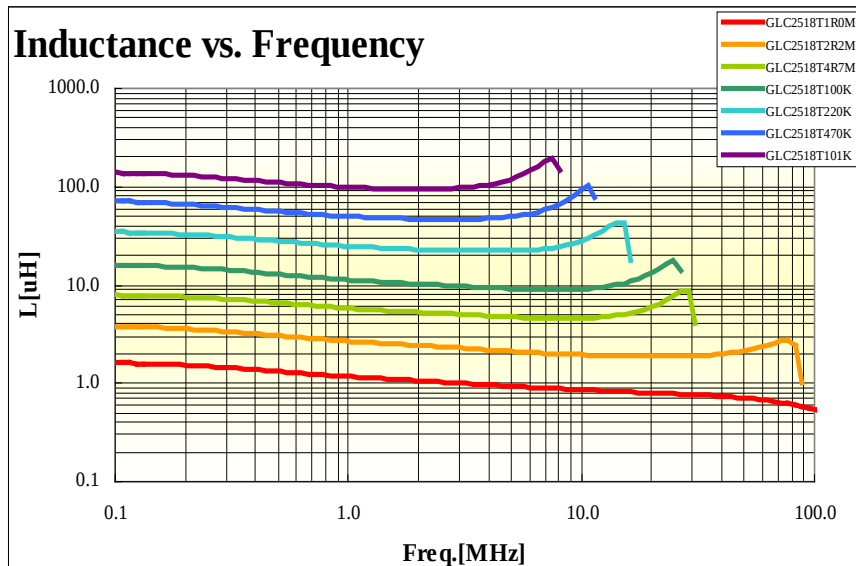
## Impedance vs. Frequency



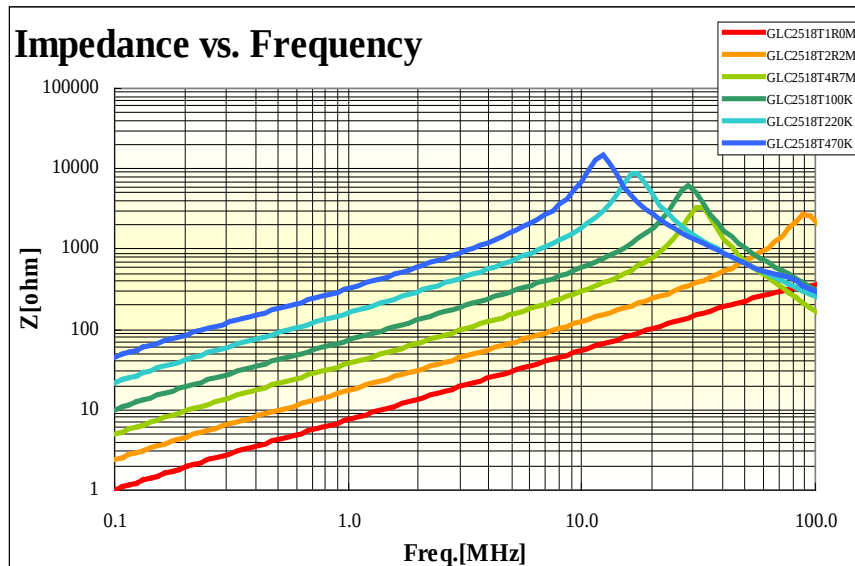
## Inductance vs. DC Superposition



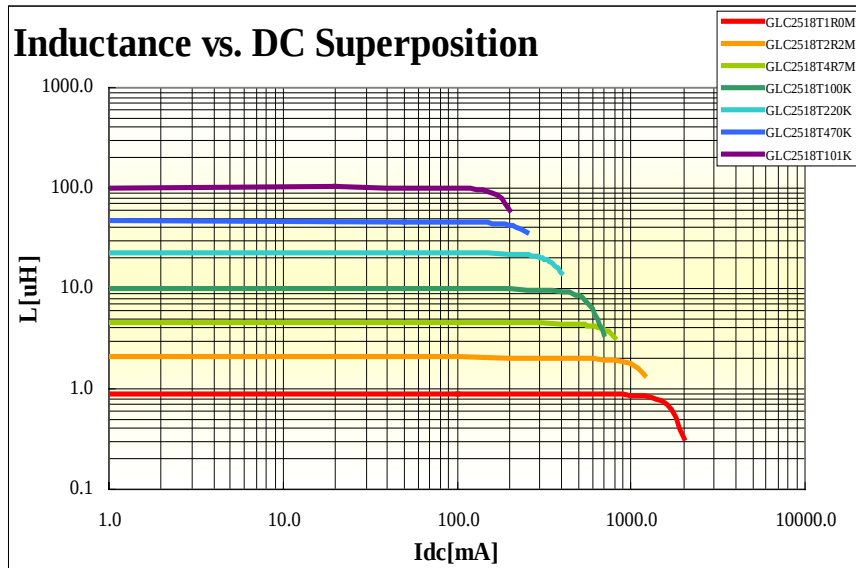
## Inductance vs. Frequency



## Impedance vs. Frequency



## Inductance vs. DC Superposition





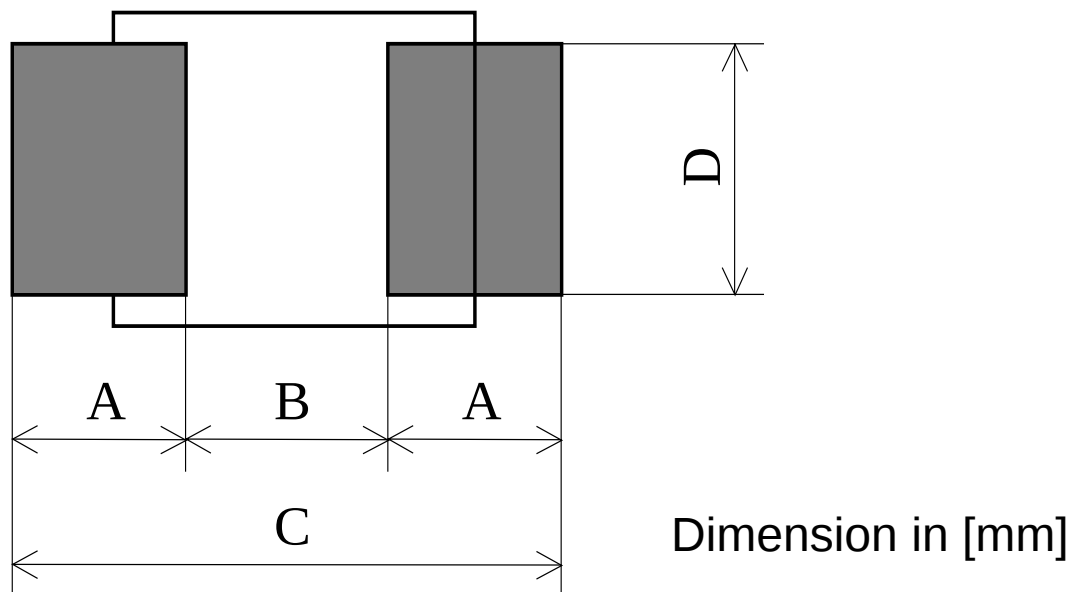
## Ratings

|                              |                |
|------------------------------|----------------|
| Temperature rise:            | 20C° max.      |
| Storage temperature range:   | -40C° to 105C° |
| Operating temperature range: | -20C° to 105C° |

## Country of origin

**Japan**

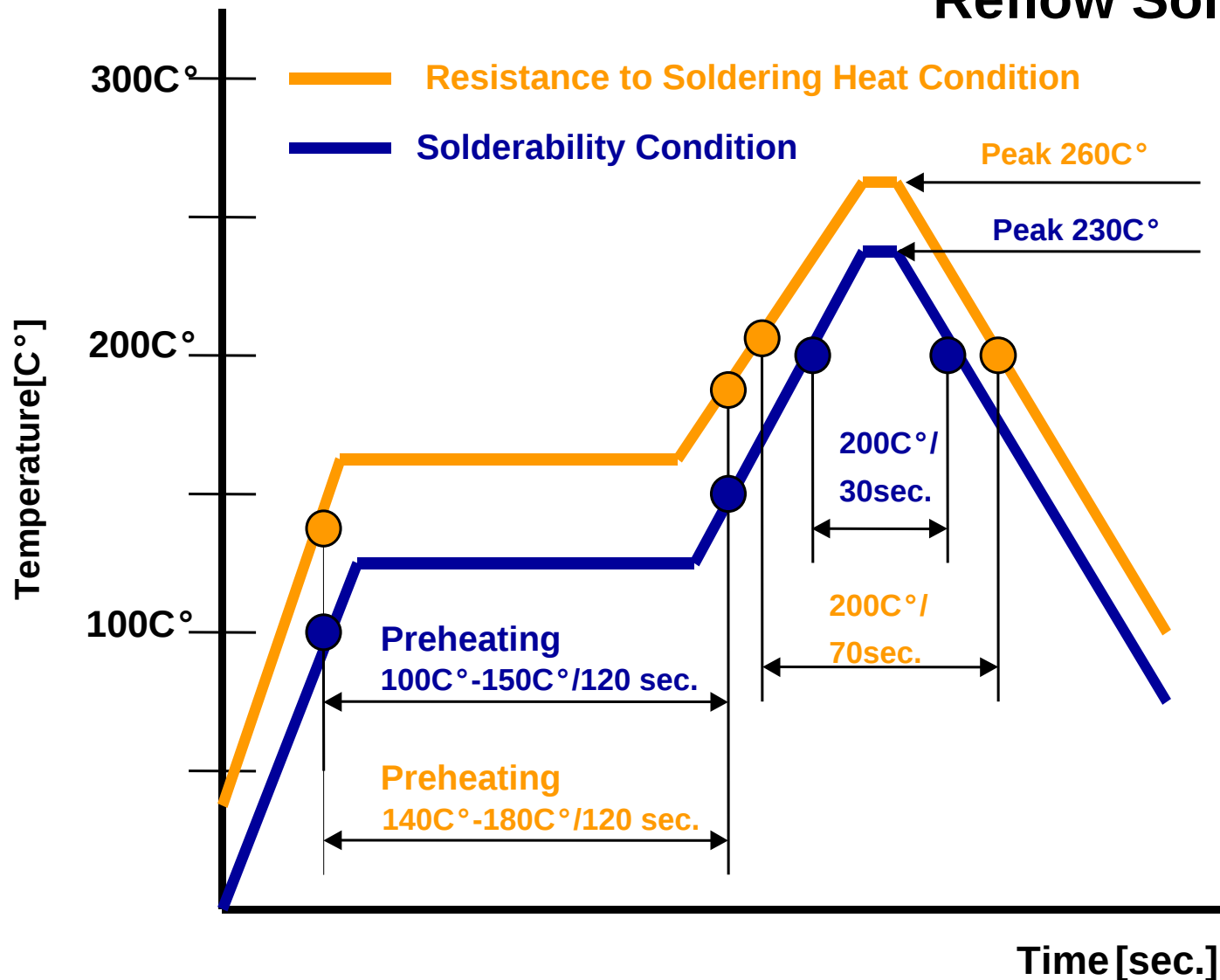
**(TDK Shonai Manufacturing Corporation/Yamagata)**

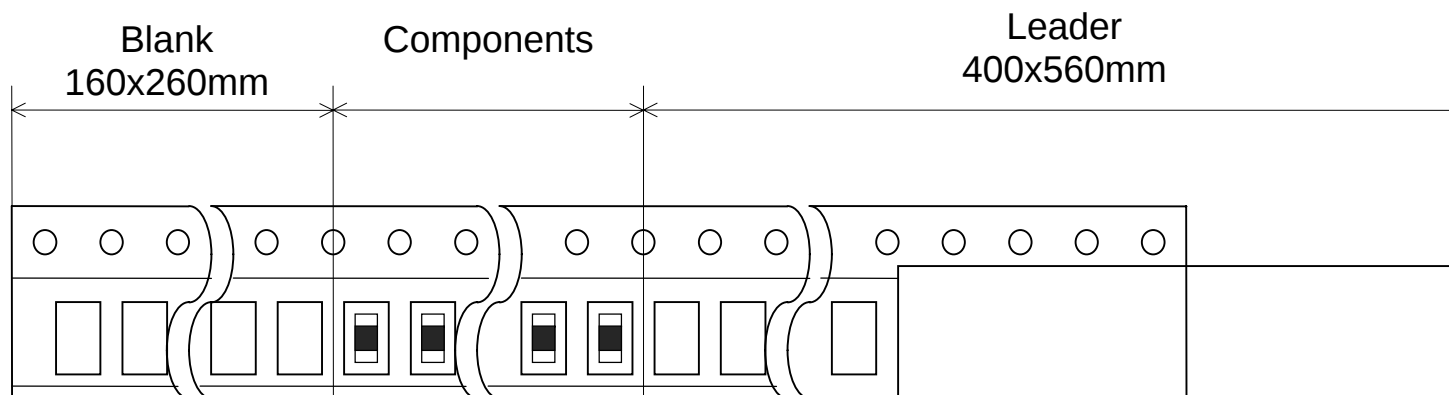


|                                                                  | A<br>[mm]   | B<br>[mm]   | C<br>[mm]   | D<br>[mm]   |
|------------------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>GLF1608Type</b>                                               | <b>0.70</b> | <b>0.70</b> | <b>2.10</b> | <b>0.70</b> |
| <b>GLF2012Type</b><br><b>GLF201208Type</b>                       | <b>0.80</b> | <b>1.00</b> | <b>2.60</b> | <b>0.80</b> |
| <b>GLF2518Type</b><br><b>GLF251812Type</b><br><b>GLC2518Type</b> | <b>0.90</b> | <b>1.30</b> | <b>3.10</b> | <b>1.60</b> |

| Test Item                                   | Test Condition                                                                                                                                                                                                                                                                                                                                                   | Specification                             | TEST RESULT                                                                                                                                                                                                                                                        |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------|-------|------|------|-------|------|------|------|-------|------|-------|------|-------|------|------|
| Temperature characteristics                 | The test shall be performed after the sample has stabilized in an ambient temperature of -40 to +105 ,and the value calculated based on the value applicable in a normal temperature of +20 .                                                                                                                                                                    | $L_{20} \pm 10\%$                         | <table><tr><td>L</td><td>-40C</td><td>20C</td><td>105C</td></tr><tr><td>Avg.</td><td>-3.91</td><td>0.00</td><td>3.81</td></tr><tr><td>Max.</td><td>-3.09</td><td>0.00</td><td>4.79</td></tr><tr><td>Min.</td><td>-4.55</td><td>0.00</td><td>2.50</td></tr></table> | L | -40C    | 20C   | 105C | Avg. | -3.91 | 0.00 | 3.81 | Max. | -3.09 | 0.00 | 4.79  | Min. | -4.55 | 0.00 | 2.50 |
| L                                           | -40C                                                                                                                                                                                                                                                                                                                                                             | 20C                                       | 105C                                                                                                                                                                                                                                                               |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Avg.                                        | -3.91                                                                                                                                                                                                                                                                                                                                                            | 0.00                                      | 3.81                                                                                                                                                                                                                                                               |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Max.                                        | -3.09                                                                                                                                                                                                                                                                                                                                                            | 0.00                                      | 4.79                                                                                                                                                                                                                                                               |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Min.                                        | -4.55                                                                                                                                                                                                                                                                                                                                                            | 0.00                                      | 2.50                                                                                                                                                                                                                                                               |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Thermal shock                               | The test shall be performed upon completion of 100 cycles in accordance with the conditions in the figure below, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 12hours. <div><div>+105</div><div>+20</div><div>-40</div><div><div>30min</div><div>30min</div><div>1 cycle</div></div></div> | No mechanical damage.<br>$L/L_0 \pm 10\%$ | <table><tr><td>L</td><td>Initial</td><td>Final</td></tr><tr><td>Avg.</td><td>0.00</td><td>0.22</td></tr><tr><td>Max.</td><td>0.00</td><td>1.38</td></tr><tr><td>Min.</td><td>0.00</td><td>-0.69</td></tr></table>                                                  | L | Initial | Final | Avg. | 0.00 | 0.22  | Max. | 0.00 | 1.38 | Min.  | 0.00 | -0.69 |      |       |      |      |
| L                                           | Initial                                                                                                                                                                                                                                                                                                                                                          | Final                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Avg.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 0.22                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Max.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 1.38                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Min.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | -0.69                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Low temperature storage                     | This test shall be performed upon completion of 1000±12hours in an atmosphere with a temperature of -40±2 Upon completion of the test, the measurement shall be made after The sample has been left in a normal temperature and normal humidity more than 12hours.                                                                                               | No mechanical damage.<br>$L/L_0 \pm 10\%$ | <table><tr><td>L</td><td>Initial</td><td>Final</td></tr><tr><td>Avg.</td><td>0.00</td><td>1.22</td></tr><tr><td>Max.</td><td>0.00</td><td>3.56</td></tr><tr><td>Min.</td><td>0.00</td><td>-0.32</td></tr></table>                                                  | L | Initial | Final | Avg. | 0.00 | 1.22  | Max. | 0.00 | 3.56 | Min.  | 0.00 | -0.32 |      |       |      |      |
| L                                           | Initial                                                                                                                                                                                                                                                                                                                                                          | Final                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Avg.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 1.22                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Max.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 3.56                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Min.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | -0.32                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Continuous operation<br>in high temperature | The sample shall be left for 1000±12hours in an atmosphere with a temperature of +105±2 , under supplying rated current.Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 12hours.                                                                                 | No mechanical damage.<br>$L/L_0 \pm 10\%$ | <table><tr><td>L</td><td>Initial</td><td>Final</td></tr><tr><td>Avg.</td><td>0.00</td><td>0.75</td></tr><tr><td>Max.</td><td>0.00</td><td>1.52</td></tr><tr><td>Min.</td><td>0.00</td><td>0.22</td></tr></table>                                                   | L | Initial | Final | Avg. | 0.00 | 0.75  | Max. | 0.00 | 1.52 | Min.  | 0.00 | 0.22  |      |       |      |      |
| L                                           | Initial                                                                                                                                                                                                                                                                                                                                                          | Final                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Avg.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 0.75                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Max.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 1.52                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Min.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 0.22                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Continuous operation<br>in moisture         | The sample shall be left for 1000±12hours in an atmosphere with a temperature of +60±3 and a humidity(RH)of 90-95%,under supplying rated current.Upon completion of the test,the measurement shall be made after the sample has been left in a normal temprature and normal humidity mora than 12hours.<br>12hours.                                              | No mechanical damage.<br>$L/L_0 \pm 10\%$ | <table><tr><td>L</td><td>Initial</td><td>Final</td></tr><tr><td>Avg.</td><td>0.00</td><td>0.51</td></tr><tr><td>Max.</td><td>0.00</td><td>2.14</td></tr><tr><td>Min.</td><td>0.00</td><td>-0.49</td></tr></table>                                                  | L | Initial | Final | Avg. | 0.00 | 0.51  | Max. | 0.00 | 2.14 | Min.  | 0.00 | -0.49 |      |       |      |      |
| L                                           | Initial                                                                                                                                                                                                                                                                                                                                                          | Final                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Avg.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 0.51                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Max.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | 2.14                                      |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |
| Min.                                        | 0.00                                                                                                                                                                                                                                                                                                                                                             | -0.49                                     |                                                                                                                                                                                                                                                                    |   |         |       |      |      |       |      |      |      |       |      |       |      |       |      |      |

## Reflow Soldering





|                                                            | Packing number |
|------------------------------------------------------------|----------------|
| GLF1608Type<br>GLF201208Type                               | 4,000pieces    |
| GLF2012Type<br>GLF2518Type<br>GLF251812Type<br>GLC2518Type | 2,000pieces    |

## Reel Dimension

