



**THE DATASHEET OF  
GLF201208T220M**





# *TDK's New Winding Type Chip Inductor*

# **GLF, GLC Series**

**TDK Electronics Europe GmbH - September 2004**

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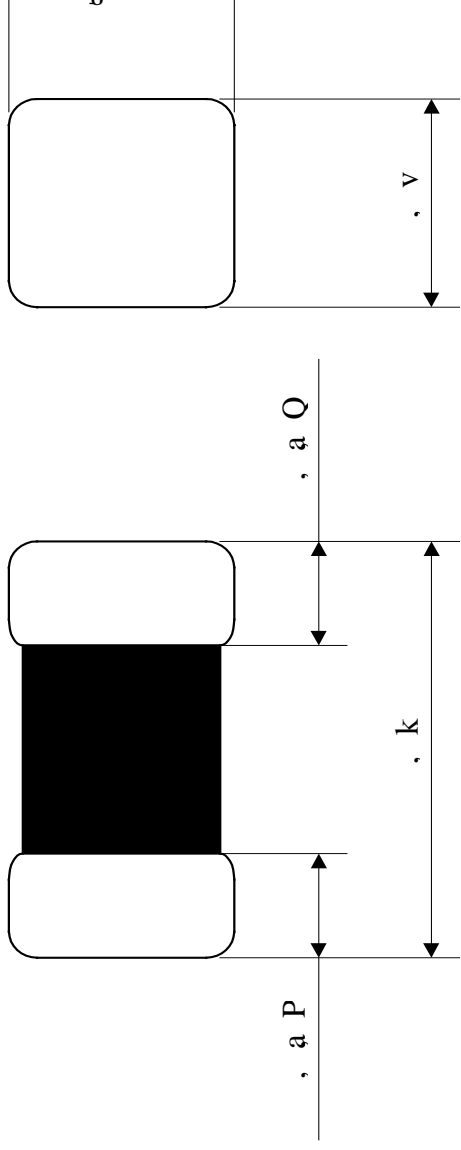


## Item Line-Up

Height[mm]		0.80mm	1.25mm
Area[mm <sup>2</sup> ]			
1.28mm <sup>2</sup>	1.60X0.80	<b>GLF1608Type</b> L:1uH to 22uH Rdc:0.70ohm(10uH) Idc:90mA(10uH)	<b>GLF_Type:Low Rdc</b> <b>GLF_Type:Low PPr</b> <b>GLC_Type:High I</b>
2.50mm <sup>2</sup>	2.00X1.25	<b>GLF201208Type</b> L:1uH to 47uH Rdc:1.10ohm(10uH) Idc:170mA(10uH)	<b>GLF2012Type</b> L:1uH to 100uH Rdc:0.36ohm(10uH) Idc:140mA(10uH)
4.50mm <sup>2</sup>	2.50X1.80		<b>GLF251812Type</b> L:1uH to 100uH Rdc:0.60ohm(10uH) Idc:325mA(10uH)
			<b>GLF2</b> L:1uH Rdc:0 Idc:21 <b>GLC2</b> L:1uH Rdc:0 Idc:30



# Shapes and Dimensions



	L [mm] ±0.10	W [mm] ±0.10	H [mm] ±0.10	B1 [mm] ±0.15	B2 [mm] ±0.15
<b>GLF1608Type</b>	<b>1.60</b>	<b>0.80</b>	<b>0.80</b>	<b>0.40</b>	<b>0.40</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>GLF2518Type</b>	<b>2.50</b>	<b>1.80</b>	<b>1.80</b>	<b>0.60</b>	<b>0.60</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>GLF251812Type</b>	<b>2.50</b>	<b>1.80</b>	<b>1.25</b>	<b>0.50</b>	<b>0.50</b>
<b>GLC2518Type</b>	<b>2.50</b>	<b>1.80</b>	<b>1.80</b>	<b>0.60</b>	<b>0.60</b>



## Electrical Characteristics [GLF1608Type]

ITEM	Inductance & Tolerance	Rdc[ohm]	Idc[mA]	
			L:10%Down Max.	L:20%Down Max.
GLF1608T1R0M	1.0 $\mu$ H $\pm$ 20%	$\pm$ 30% 0.17	125	220
GLF1608T2R2M	2.2 $\mu$ H $\pm$ 20%	0.33	85	160
GLF1608T4R7M	4.7 $\mu$ H $\pm$ 20%	0.55	70	115
GLF1608T100M	10 $\mu$ H $\pm$ 20%	0.70	50	90
GLF1608T220M	22 $\mu$ H $\pm$ 20%	3.00	35	60



## Electrical Characteristics [GLF2012Type]

ITEM	Inductance & Tolerance	Rdc[ohm]	Idc[mA]	
			L:10%Down Max.	L:20%Down Max.
GLF2012T1R0M	1.0μH±20%	±30% 0.07	275	400
GLF2012T2R2M	2.2μH±20%	0.10	210	300
GLF2012T4R7M	4.7μH±20%	0.24	120	200
GLF2012T100K	10μH±10%	0.36	100	140
GLF2012T220K	22μH±10%	1.00	75	100
GLF2012T470K	47μH±10%	1.70	50	75
GLF2012T101K	100μH±10%	4.00	30	50



## Electrical Characteristics [GLF2518Type]

ITEM	Inductance & Tolerance	Rdc[ohm]	Idc[mA]	
			L:10%Down Max.	L:20%Down Max.
GLF2518T1R0M	1.0μH±20%	0.05±30%	500	675
GLF2518T2R2M	2.2μH±20%	0.08±30%	340	450
GLF2518T4R7M	4.7μH±20%	0.11±30%	240	320
GLF2518T100K	10μH±10%	0.20±20%	165	210
GLF2518T220K	22μH±10%	0.45±20%	115	150
GLF2518T470K	47μH±10%	0.85±20%	85	100
GLF2518T101K	100μH±10%	1.90±20%	55	75



## Electrical Characteristics [GLF201208Type]

ITEM	Inductance & Tolerance	Rdc[ohm]	Idc[mA]	
			L:10%Down Max.	L:20%Down Max.
GLF201208T1R0M	1.0μH±20%	0.19±20%	340	460
GLF201208T2R2M	2.2μH±20%	0.56±20%	220	300
GLF201208T4R7M	4.7μH±20%	0.74±20%	160	230
GLF201208T100M	10μH±20%	1.10±20%	130	170
GLF201208T220M	22μH±20%	3.50±20%	80	110
GLF201208T470M	47μH±20%	5.30±20%	60	90



## Electrical Characteristics [GLF251812Type]

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

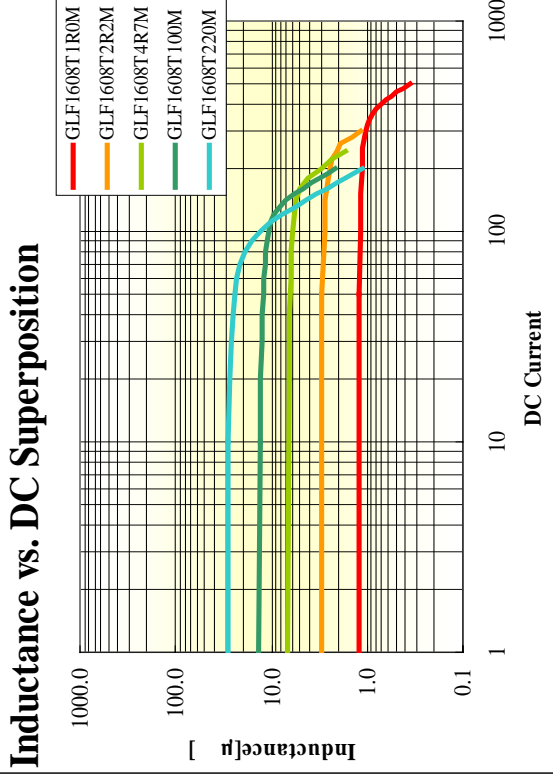
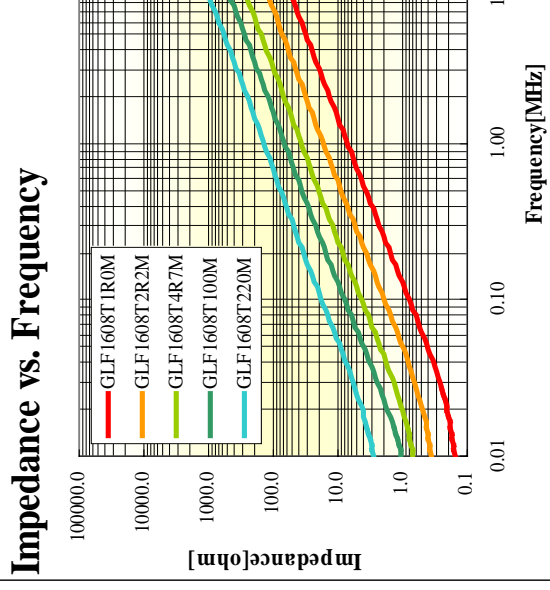
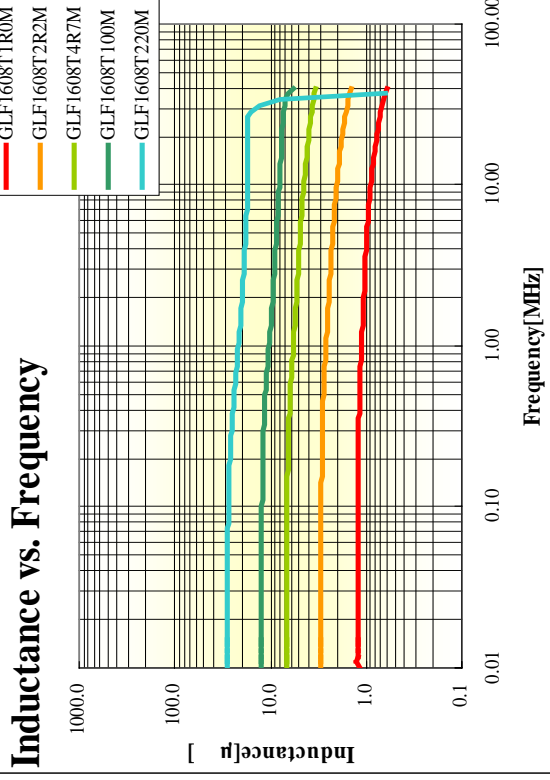


## Electrical Characteristics [GLC2518Type]

ITEM	Inductance & Tolerance	Rdc[ohm]	Idc[mA]	
			L:10%Down Max.	L:20%Do Max.
GLC2518T1R0M	1.0 $\mu$ H $\pm$ 20%	0.08 $\pm$ 30%	850	-----
GLC2518T2R2M	2.2 $\mu$ H $\pm$ 20%	0.13 $\pm$ 30%	650	-----
GLC2518T4R7M	4.7 $\mu$ H $\pm$ 20%	0.20 $\pm$ 30%	475	-----
GLC2518T100K	10 $\mu$ H $\pm$ 10%	0.36 $\pm$ 20%	350	-----
GLC2518T220K	22 $\mu$ H $\pm$ 10%	0.90 $\pm$ 20%	225	-----
GLC2518T470K	47 $\mu$ H $\pm$ 10%	1.90 $\pm$ 20%	170	-----
GLC2518T101K	100 $\mu$ H $\pm$ 10%	3.50 $\pm$ 20%	110	-----

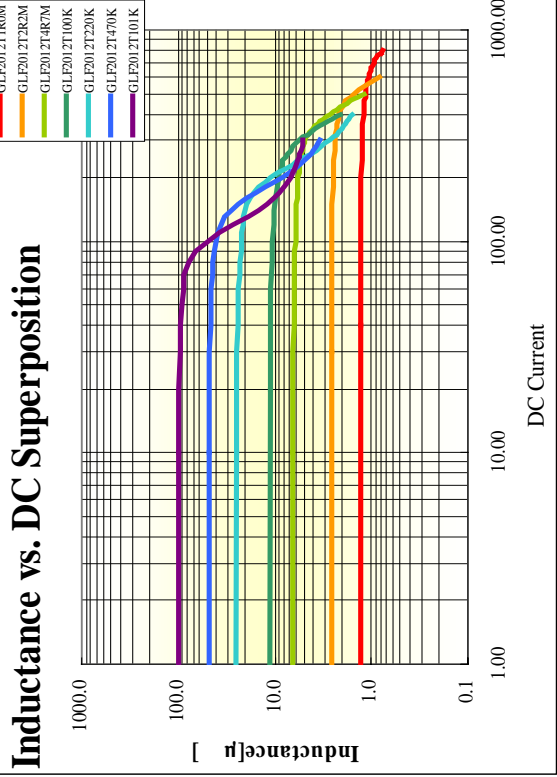
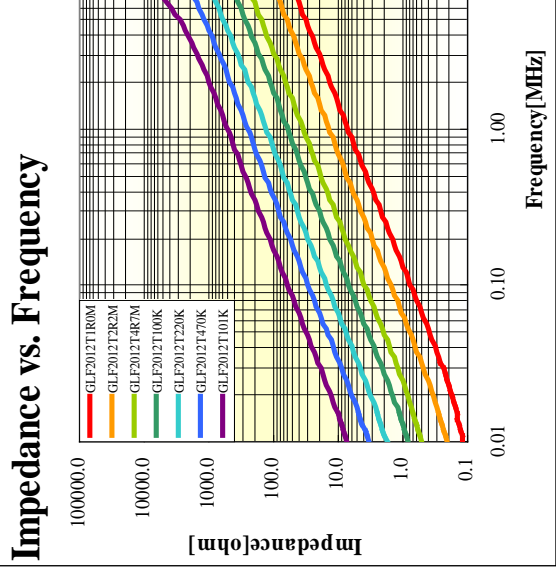
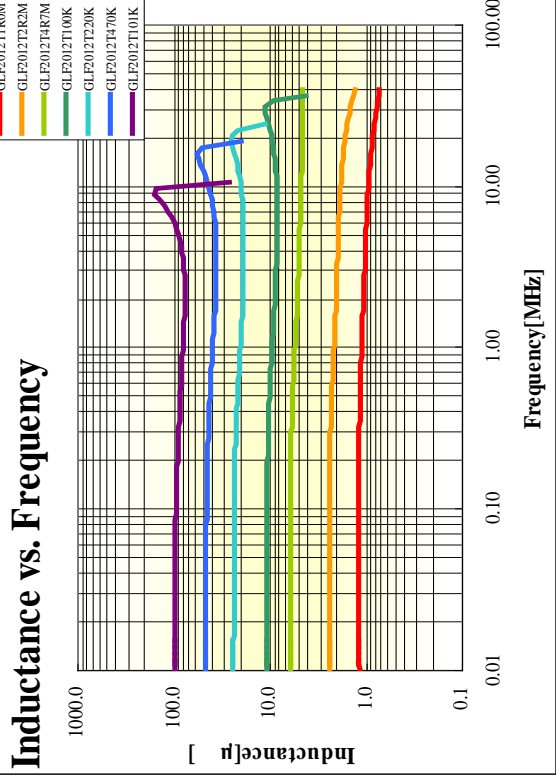


# Typical Electrical Characteristics [GLF1608Type]



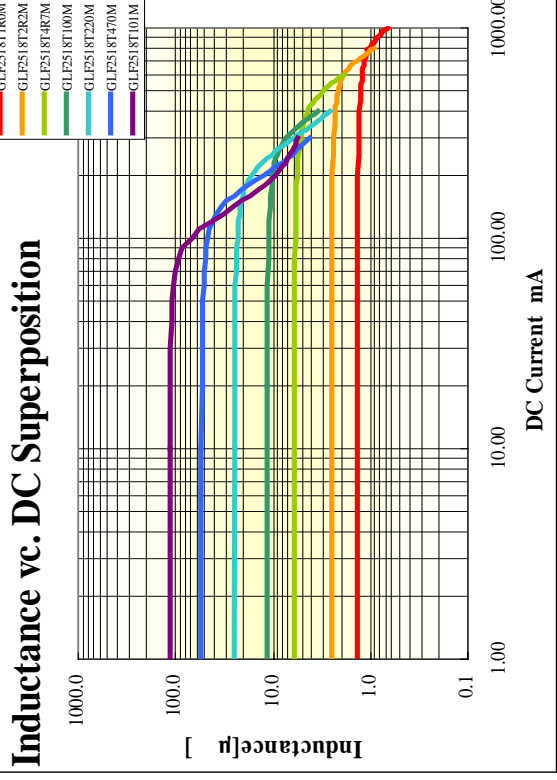
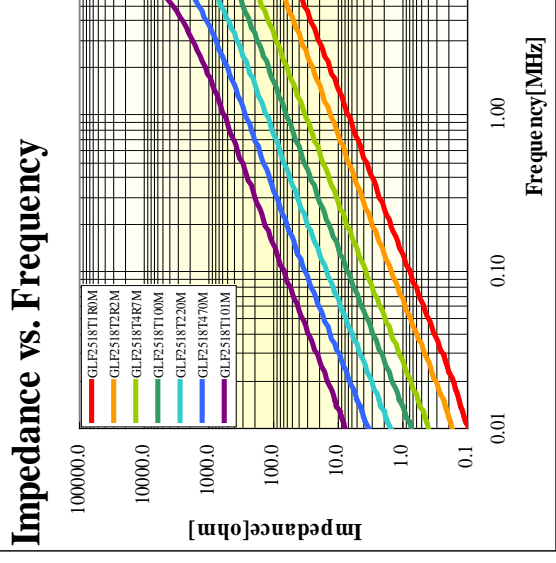
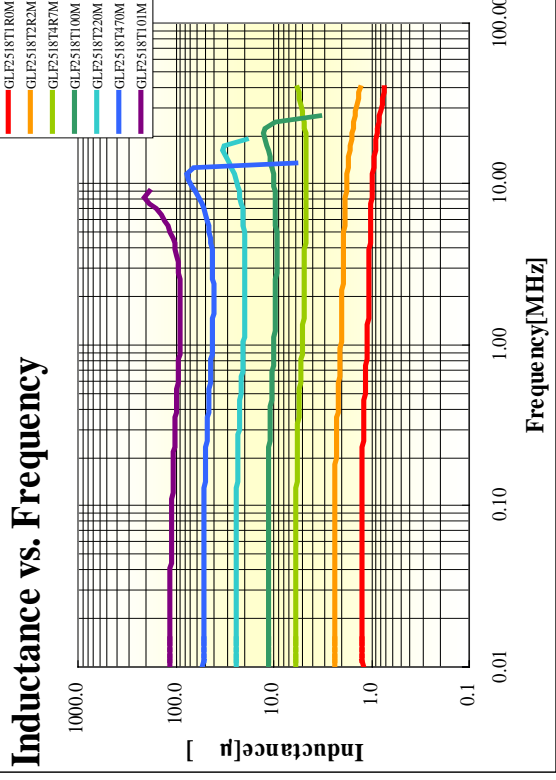


# Typical Electrical Characteristics [GLF2012Type]





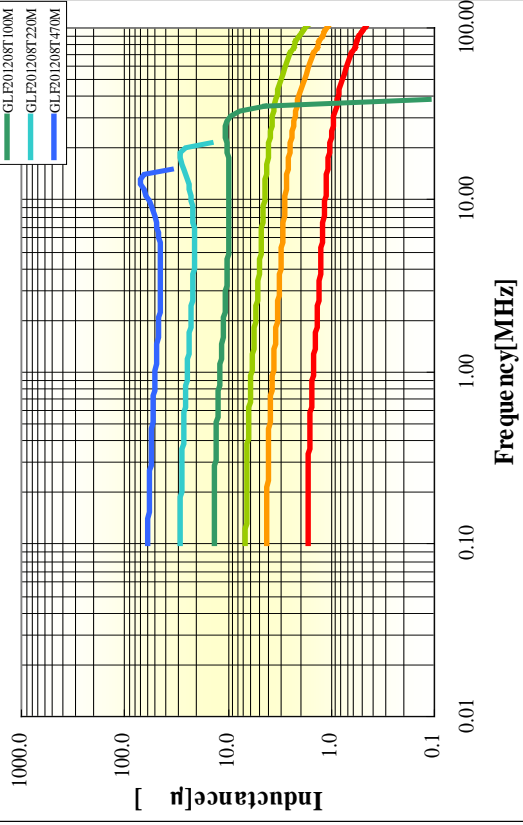
# Typical Electrical Characteristics [GLF2518Type]



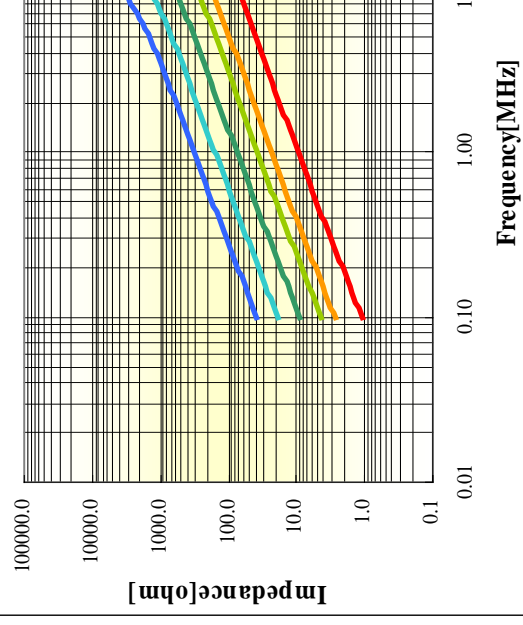


# Typical Electrical Characteristics [GLF201208Type]

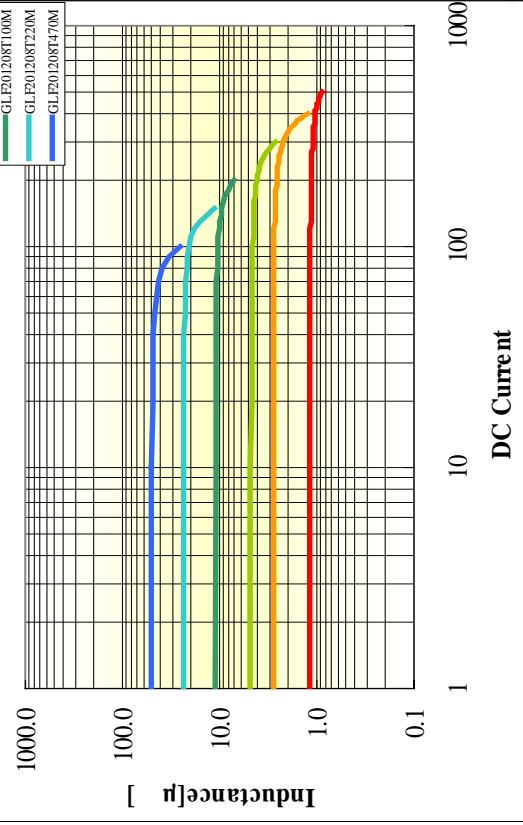
### Inductance vs. Frequency



### Impedance vs. Frequency

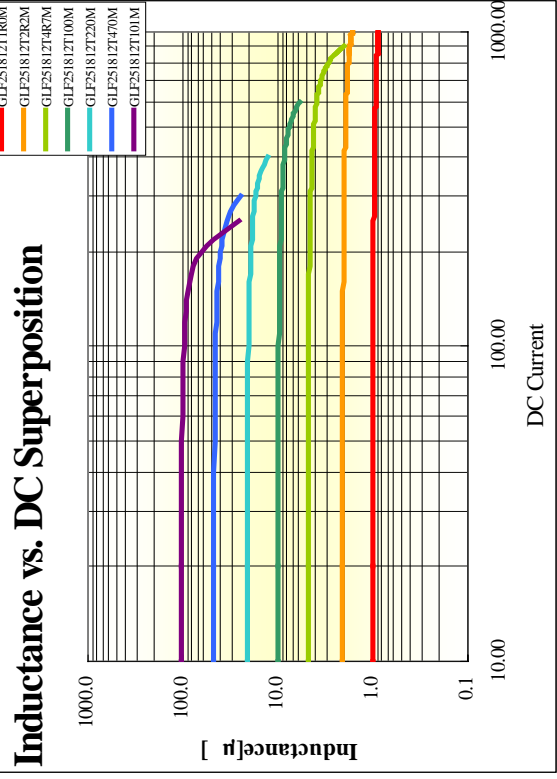
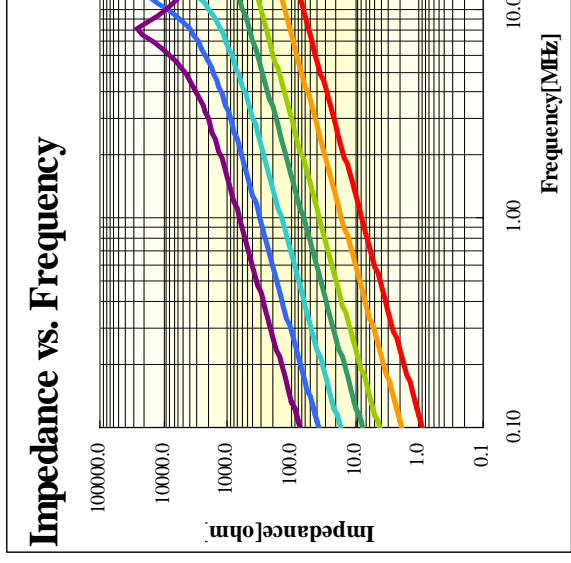
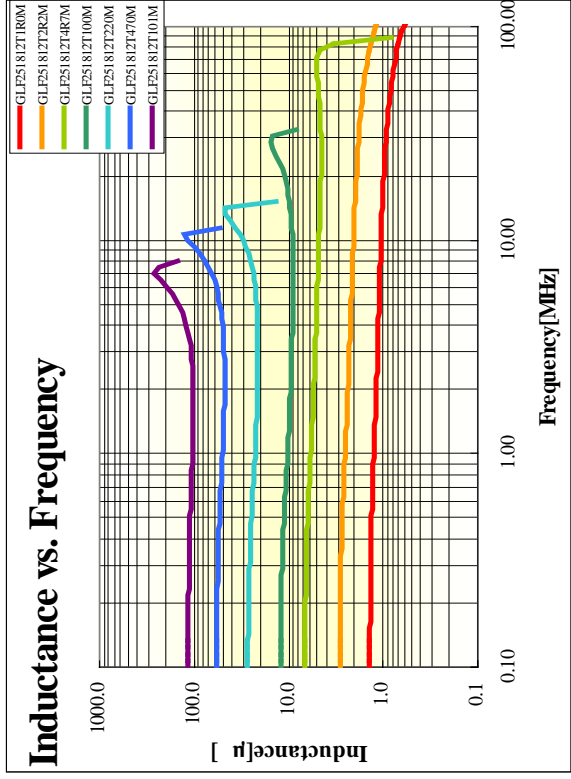


### Inductance vs. DC Superposition





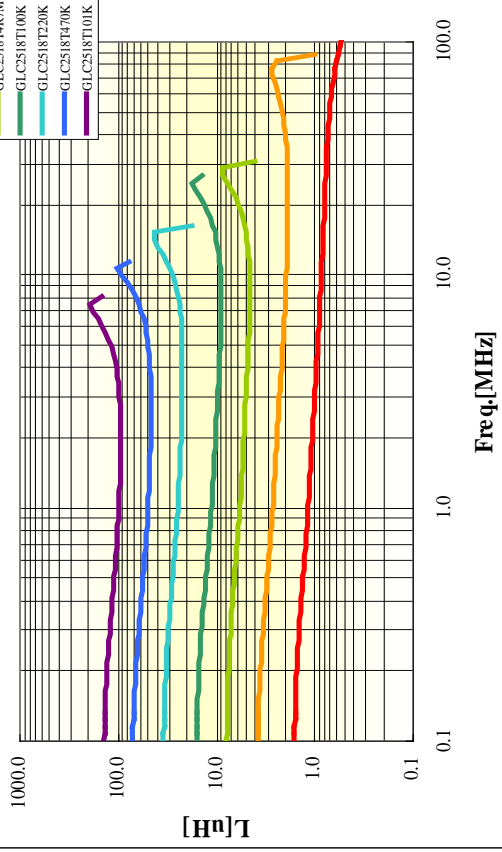
# Typical Electrical Characteristics [GLF251812Type]



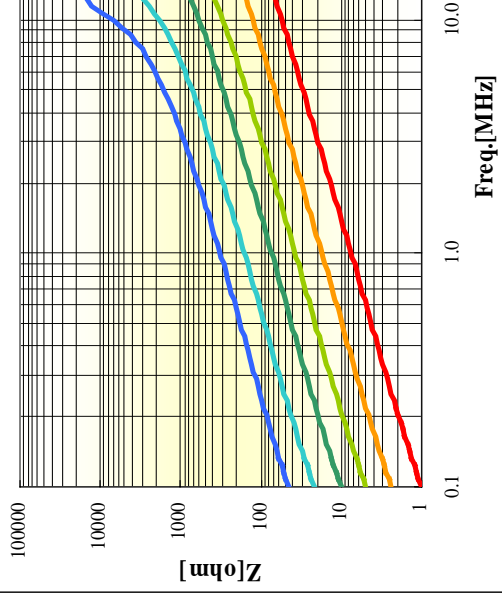


# Typical Electrical Characteristics [GLC2518Type]

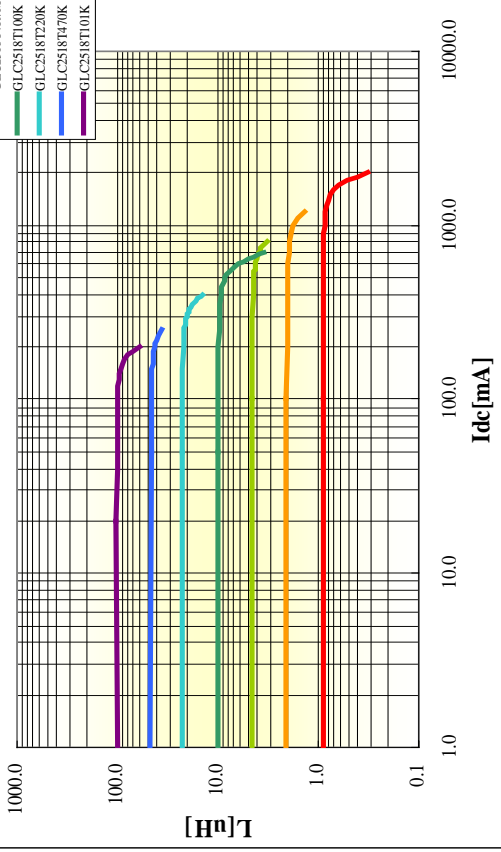
### Inductance vs. Frequency



### Impedance vs. Frequency



### Inductance vs. DC Superposition





## GLF & GLC Series Basic Information

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### Ratings

Temperature rise: 20C° max.

Storage temperature range: -40C° to 105C°

Operating temperature range: -20C° to 105C°

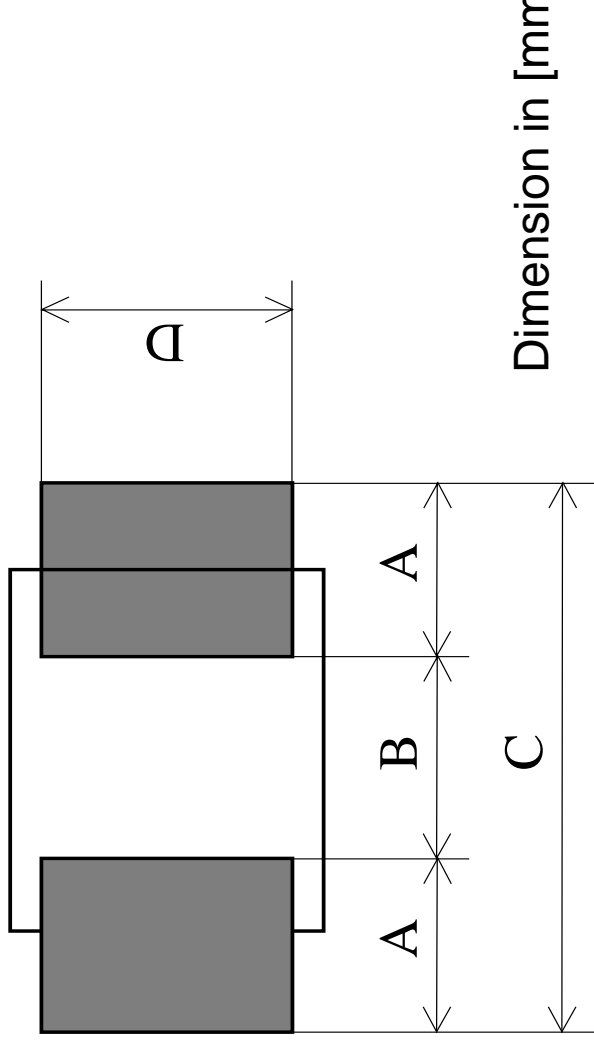
### Country of origin

Japan

(TDK Shonai Manufacturing Corporation/Yamagata)



## The Recommended Land Pattern



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

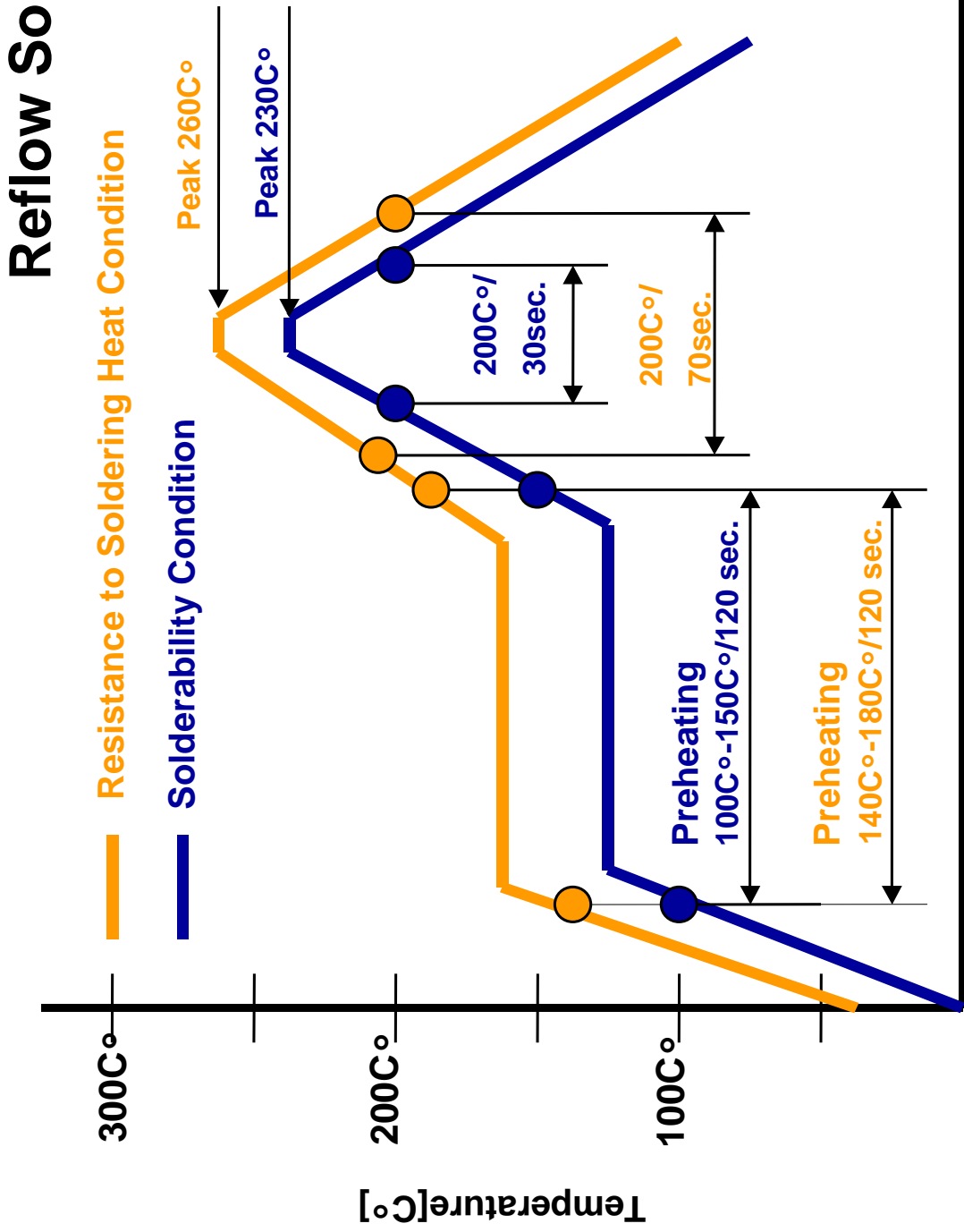


# Reliability requirements

Test Item	Test Condition	Specification	T				
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 <sub>20</sub> ±10%	<table border="1"> <tr><td>L</td></tr> <tr><td>Avg.</td></tr> <tr><td>Max.</td></tr> <tr><td>Min.</td></tr> </table>	L	Avg.	Max.	Min.
L							
Avg.							
Max.							
Min.							
Thermal shock	<p>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.</p>	No mechanical damage. L/Lo ±10%	<table border="1"> <tr><td>L</td></tr> <tr><td>Avg.</td></tr> <tr><td>Max.</td></tr> <tr><td>Min.</td></tr> </table>	L	Avg.	Max.	Min.
L							
Avg.							
Max.							
Min.							
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. L/Lo ±10%	<table border="1"> <tr><td>L</td></tr> <tr><td>Avg.</td></tr> <tr><td>Max.</td></tr> <tr><td>Min.</td></tr> </table>	L	Avg.	Max.	Min.
L							
Avg.							
Max.							
Min.							
Continuous operation 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. L/Lo ±10%	<table border="1"> <tr><td>L</td></tr> <tr><td>Avg.</td></tr> <tr><td>Max.</td></tr> <tr><td>Min.</td></tr> </table>	L	Avg.	Max.	Min.
L							
Avg.							
Max.							
Min.							
Continuous operation 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 temperature and normal humidity more than 12hours.	No mechanical damage. L/Lo ±10%	<table border="1"> <tr><td>L</td></tr> <tr><td>Avg.</td></tr> <tr><td>Max.</td></tr> <tr><td>Min.</td></tr> </table>	L	Avg.	Max.	Min.
L							
Avg.							
Max.							
Min.							

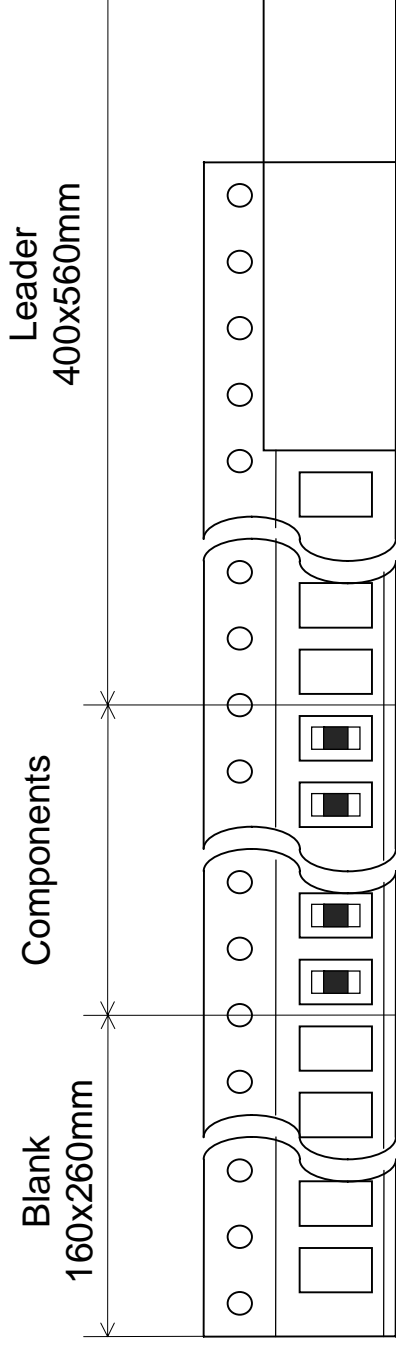


# Recommended Soldering Conditions



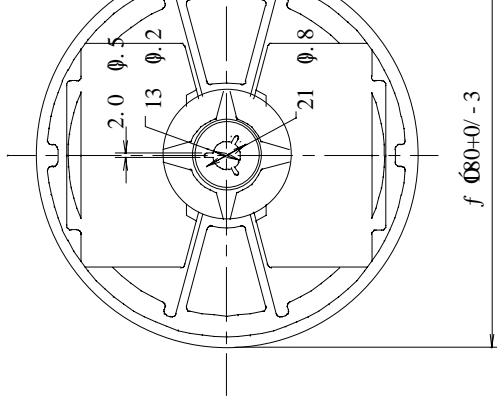


# Technical Part and Leader Part Tape



	Packing number
<b>GLF1608Type</b>	<b>4,000pieces</b>
<b>GLF201208Type</b>	
<b>GLF2012Type</b>	<b>2,000pieces</b>
<b>GLF2518Type</b>	
<b>GLF251812Type</b>	
<b>GLC2518Type</b>	

## Reel Dimension



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