

Wire-wound Ferrite Bead Inductors for Power Lines LLMC/LLMG series for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

Code in front of Series have been extracted from Part number, which describes the segment of products, such as kinds and characteristics.

WAVE REFLOW

PART NUMBER

*Operating Temp. : -40~+125°C (Including self-generated heat)

L	L	M	C	C	3	2	1	6	1	1	T	8	0	0	R	
①	②	③	④	⑤	⑥	⑦	⑧									

①Series

Code (1)(2)(3)(4)	
LLMC	Wire-wound Ferrite Bead Inductors for Power Lines for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)
LLMG	Wire-wound Ferrite Bead Inductors for Power Lines for Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)

(1) Product Group

Code	
L	Inductors

(2) Category

Code	Recommended equipment	Quality Grade
L	Medical Devices classified as GHTF Classes A or B (Japan Classes I or II)	3

②Features

Code	Feature
A	Standard (20MHz)
C	Wave-shaping
G	For GHz noise

③Dimensions (L × W)

Code	Type (inch)	Dimensions (L × W) [mm]
1608	1608 (0603)	1.6 × 0.8
2012	2012 (0805)	2.0 × 1.25
2016	2016 (0806)	2.0 × 1.6
3216	3216 (1206)	3.2 × 1.6
3225	3225 (1210)	3.2 × 2.5
4516	4516 (1806)	4.5 × 1.6
4525	4525 (1810)	4.5 × 2.5
4532	4532 (1812)	4.5 × 3.2

④Dimensions (T)

Code	Dimensions (T) [mm]
08	0.8
	0.85
11	1.1
16	1.6
25	2.5
32	3.2

(3) Type

Code	
M	Ferrite Wire-wound bead

(4) Features, Characteristics

Code	
C	High current
G	High frequency

⑤Packaging

Code	Packaging
T	Taping
L	Taping

⑥Nominal impedance

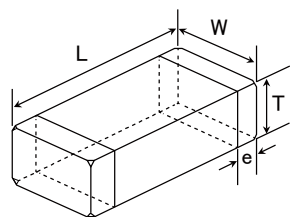
Code (example)	Nominal impedance [Ω]
330	33
221	220
102	1000

⑦Impedance tolerance

Code	Impedance tolerance
R	±25%
N	±30%

⑧Internal code

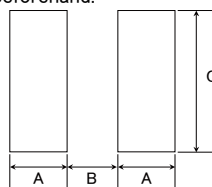
STANDARD EXTERNAL DIMENSIONS / STANDARD QUANTITY



Recommended Land Patterns

Surface Mounting

• Mounting and soldering conditions should be checked beforehand.



Type	A	B	C
1608	1.0	1.0	1.0
2012	1.4	1.2	1.65
2016	1.4	1.2	2.0
3216	1.4	2.2	2.0
3225	1.4	2.2	2.9
4516	1.75	3.5	2.0
4525	1.75	3.5	2.9
4532	1.75	3.5	3.7

Unit: mm

Type	L	W	T	e	Standard quantity [pcs]	
					Paper tape	Embossed tape
160808 *1 (0603)	1.6±0.2 (0.063±0.008)	0.8±0.2 (0.031±0.008)	0.8±0.2 (0.031±0.008)	0.3±0.2 (0.012±0.008)	4000	—
160808 *2 (0603)	1.6±0.1 (0.063±0.004)	0.8±0.1 (0.031±0.004)	0.8±0.1 (0.031±0.004)	0.3±0.15 (0.012±0.006)	4000	—
201208 (0805)	2.0±0.2 (0.079±0.008)	1.25±0.2 (0.049±0.008)	0.85±0.2 (0.033±0.008)	0.5±0.3 (0.020±0.012)	4000	—
201616 (0806)	2.0±0.2 (0.079±0.008)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.3 (0.020±0.012)	—	2000
321611 (1206)	3.2±0.3 (0.126±0.012)	1.6±0.2 (0.063±0.008)	1.1±0.2 (0.043±0.008)	0.5±0.3 (0.020±0.012)	—	2000
321616 (1206)	3.2±0.3 (0.126±0.012)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.3 (0.020±0.012)	—	2000
322525 (1210)	3.2±0.3 (0.126±0.012)	2.5±0.3 (0.098±0.012)	2.5±0.3 (0.098±0.012)	0.5±0.3 (0.020±0.012)	—	1000
451611 (1806)	4.5±0.3 (0.177±0.012)	1.6±0.2 (0.063±0.008)	1.1±0.2 (0.043±0.008)	0.5±0.3 (0.020±0.012)	—	2000
451616 (1806)	4.5±0.3 (0.177±0.012)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.3 (0.020±0.012)	—	2000
452525 (1810)	4.5±0.4 (0.177±0.016)	2.5±0.3 (0.098±0.012)	2.5±0.3 (0.098±0.012)	0.9±0.6 (0.035±0.024)	—	1000
453232 (1812)	4.5±0.4 (0.177±0.016)	3.2±0.3 (0.126±0.012)	3.2±0.3 (0.126±0.012)	0.9±0.6 (0.035±0.024)	—	2000

*1 LLMC, *2 LLMG

Unit: mm (inch)

■ PART NUMBER

Standard type

● 1608 (0603) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMCC160808T280NG	FB MJ1608HS280NT	RoHS	28	$\pm 30\%$	100	0.007	4.0	0.8 ± 0.2
LLMCA160808T230NG	FB MJ1608HM230NT	RoHS	23	$\pm 30\%$	100	0.007	4.0	0.8 ± 0.2

● 2012 (0805) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMCC201208T250NG	FB MJ2125HS250NT	RoHS	25	$\pm 30\%$	100	0.004	6.0	0.85 ± 0.2
LLMCC201208T420RG	FB MJ2125HS420-T	RoHS	42	$\pm 25\%$	100	0.008	4.0	0.85 ± 0.2
LLMCA201208T210NG	FB MJ2125HM210NT	RoHS	21	$\pm 30\%$	100	0.004	6.0	0.85 ± 0.2
LLMCA201208T330RG	FB MJ2125HM330-T	RoHS	33	$\pm 25\%$	100	0.008	4.0	0.85 ± 0.2
LLMCG201208T8R0NG	FB MJ2125HL8R0NT	RoHS	8	$\pm 30\%$	100	0.008	4.0	0.85 ± 0.2

● 3216 (1206) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMCC321611T480NG	FB MJ3216HS480NT	RoHS	48	$\pm 30\%$	100	0.005	6.0	1.1 ± 0.2
LLMCC321611T800RG	FB MJ3216HS800-T	RoHS	80	$\pm 25\%$	100	0.010	4.0	1.1 ± 0.2
LLMCA321611T380NG	FB MJ3216HM380NT	RoHS	38	$\pm 30\%$	100	0.005	6.0	1.1 ± 0.2
LLMCA321611T600RG	FB MJ3216HM600-T	RoHS	60	$\pm 25\%$	100	0.010	4.0	1.1 ± 0.2
LLMCG321611T160NG	FB MJ3216HL160NT	RoHS	16	$\pm 30\%$	100	0.012	4.0	1.1 ± 0.2

● 4516 (1806) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMCC451611T720NG	FB MJ4516HS720NT	RoHS	72	$\pm 30\%$	100	0.007	6.0	1.1 ± 0.2
LLMCC451611T111RG	FB MJ4516HS111-T	RoHS	110	$\pm 25\%$	100	0.014	4.0	1.1 ± 0.2
LLMCA451611T560NG	FB MJ4516HM560NT	RoHS	56	$\pm 30\%$	100	0.007	6.0	1.1 ± 0.2
LLMCA451611T900RG	FB MJ4516HM900-T	RoHS	90	$\pm 25\%$	100	0.014	4.0	1.1 ± 0.2
LLMCG451611T230NG	FB MJ4516HL230NT	RoHS	23	$\pm 30\%$	100	0.014	3.5	1.1 ± 0.2

High impedance type GHz Band

● 1608 (0603) type

New part number	Old part number (for reference)	EHS	Nominal impedance Measuring frequency 100 [MHz]		Nominal impedance Measuring frequency 1 [GHz]		DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
			(Ω)	tolerance	(Ω)	tolerance			
LLMGA160808T470RG	FB MH1608HM470-T	RoHS	47	$\pm 25\%$	75	$\pm 40\%$	0.020	3.5	0.8 ± 0.1
LLMGA160808T600RG	FB MH1608HM600-T	RoHS	60	$\pm 25\%$	100	$\pm 40\%$	0.025	3.0	0.8 ± 0.1
LLMGA160808T101RG	FB MH1608HM101-T	RoHS	100	$\pm 25\%$	170	$\pm 40\%$	0.035	2.5	0.8 ± 0.1
LLMGA160808T151RG	FB MH1608HM151-T	RoHS	150	$\pm 25\%$	270	$\pm 40\%$	0.050	2.1	0.8 ± 0.1
LLMGA160808T221RG	FB MH1608HM221-T	RoHS	220	$\pm 25\%$	370	$\pm 40\%$	0.070	1.8	0.8 ± 0.1
LLMGA160808T331RG	FB MH1608HM331-T	RoHS	330	$\pm 25\%$	520	$\pm 40\%$	0.130	1.2	0.8 ± 0.1
LLMGA160808T471RG	FB MH1608HM471-T	RoHS	470	$\pm 25\%$	750	$\pm 40\%$	0.150	1.0	0.8 ± 0.1
LLMGA160808T601RG	FB MH1608HM601-T	RoHS	600	$\pm 25\%$	900	$\pm 40\%$	0.170	0.9	0.8 ± 0.1
LLMGA160808T102RG	FB MH1608HM102-T	RoHS	1000	$\pm 25\%$	1200	$\pm 40\%$	0.350	0.6	0.8 ± 0.1
LLMGG160808T300RG	FB MH1608HL300-T	RoHS	30	$\pm 25\%$	120	$\pm 40\%$	0.028	2.6	0.8 ± 0.1
LLMGG160808T600RG	FB MH1608HL600-T	RoHS	60	$\pm 25\%$	220	$\pm 40\%$	0.045	2.1	0.8 ± 0.1
LLMGG160808T121RG	FB MH1608HL121-T	RoHS	120	$\pm 25\%$	540	$\pm 40\%$	0.130	1.2	0.8 ± 0.1
LLMGG160808T221RG	FB MH1608HL221-T	RoHS	220	$\pm 25\%$	950	$\pm 40\%$	0.170	0.9	0.8 ± 0.1
LLMGG160808T331RG	FB MH1608HL331-T	RoHS	330	$\pm 25\%$	1200	$\pm 40\%$	0.210	0.8	0.8 ± 0.1
LLMGG160808T471RG	FB MH1608HL471-T	RoHS	470	$\pm 25\%$	1500	$\pm 40\%$	0.350	0.6	0.8 ± 0.1
LLMGG160808T601RG	FB MH1608HL601-T	RoHS	600	$\pm 25\%$	1800	$\pm 40\%$	0.450	0.5	0.8 ± 0.1

※) The rated current is the value of current at which the temperature of the element is increased by 40 deg.

PART NUMBER

High impedance type

● 2012 (0805) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA201208T800RG	FB MH2012HM800-T	RoHS	80	$\pm 25\%$	100	0.025	2.7	0.85 ± 0.2
LLMGA201208T121RG	FB MH2012HM121-T	RoHS	120	$\pm 25\%$	100	0.032	2.5	0.85 ± 0.2
LLMGA201208T221RG	FB MH2012HM221-T	RoHS	220	$\pm 25\%$	100	0.060	2.0	0.85 ± 0.2
LLMGA201208T331RG	FB MH2012HM331-T	RoHS	330	$\pm 25\%$	100	0.080	1.8	0.85 ± 0.2

● 2016 (0806) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA201616T121NG	FB MH2016HM121NT	RoHS	120	$\pm 30\%$	100	0.015	4.5	1.6 ± 0.2
LLMGA201616T251NG	FB MH2016HM251NT	RoHS	250	$\pm 30\%$	100	0.050	2.0	1.6 ± 0.2

● 3216 (1206) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA321616T221NG	FB MH3216HM221NT	RoHS	220	$\pm 30\%$	100	0.020	4.0	1.6 ± 0.2
LLMGA321616T501NG	FB MH3216HM501NT	RoHS	500	$\pm 30\%$	100	0.070	2.0	1.6 ± 0.2

● 3225 (1210) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA322525T601NG	FB MH3225HM601NT	RoHS	600	$\pm 30\%$	100	0.042	3.0	2.5 ± 0.3
LLMGA322525T102NG	FB MH3225HM102NT	RoHS	1000	$\pm 30\%$	100	0.100	2.0	2.5 ± 0.3
LLMGA322525T202NG	FB MH3225HM202NT	RoHS	2000	$\pm 30\%$	100	0.130	1.2	2.5 ± 0.3

● 4516 (1806) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA451616T851NG	FB MH4516HM851NT	RoHS	850	$\pm 30\%$	100	0.100	1.5	1.6 ± 0.2

● 4525 (1810) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA452525T102NG	FB MH4525HM102NT	RoHS	1000	$\pm 30\%$	100	0.060	3.0	2.5 ± 0.3
LLMGA452525T162NG	FB MH4525HM162NT	RoHS	1600	$\pm 30\%$	100	0.130	2.0	2.5 ± 0.3

● 4532 (1812) type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMGA453232L681RG	FB MH4532HM681-T	RoHS	680	$\pm 25\%$	100	0.028	4.0	3.2 ± 0.3
LLMGA453232L132RG	FB MH4532HM132-T	RoHS	1300	$\pm 25\%$	100	0.060	3.0	3.2 ± 0.3
LLMGA453232L202RG	FB MH4532HM202-T	RoHS	2000	$\pm 25\%$	100	0.130	1.3	3.2 ± 0.3

● High current type

New part number	Old part number (for reference)	EHS	Nominal impedance (Ω)	Impedance tolerance	Measuring frequency [MHz]	DC Resistance [Ω] (max.)	Rated current [A] (max.)	Thickness [mm]
LLMCC160808T220NGR	FB MJ1608HS220NTR	RoHS	22	$\pm 30\%$	100	0.004	7.5	0.8 ± 0.2
LLMCC160808T280NGR	FB MJ1608HS280NTR	RoHS	28	$\pm 30\%$	100	0.006	6.0	0.8 ± 0.2
LLMCA160808T180NGR	FB MJ1608HM180NTR	RoHS	18	$\pm 30\%$	100	0.004	7.5	0.8 ± 0.2
LLMCA160808T230NGR	FB MJ1608HM230NTR	RoHS	23	$\pm 30\%$	100	0.006	6.0	0.8 ± 0.2

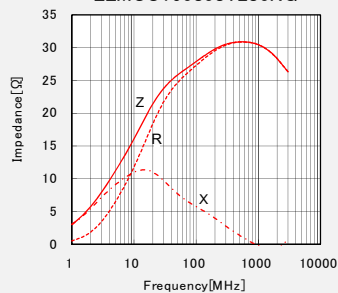
※) The rated current is the value of current at which the temperature of the element is increased by 40 deg.

ELECTRICAL CHARACTERISTICS

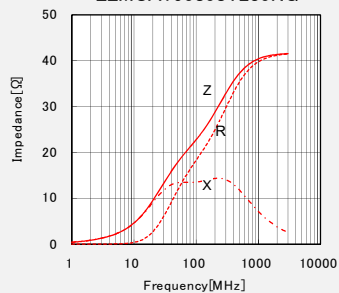
Standard type

■ 1608 type

LLMCC160808T280NG

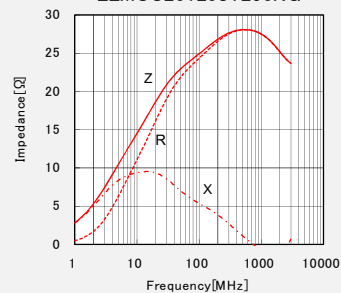


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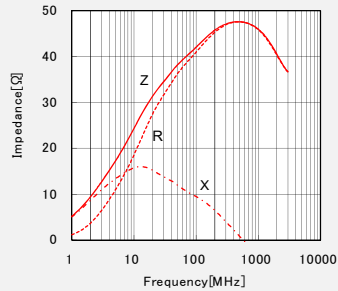


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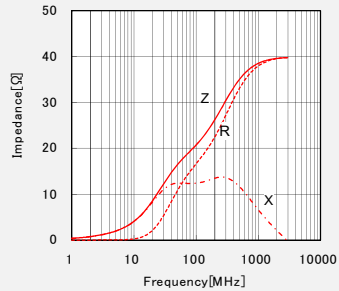
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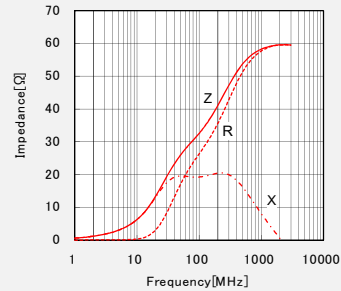
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LLMCA201208T210NG

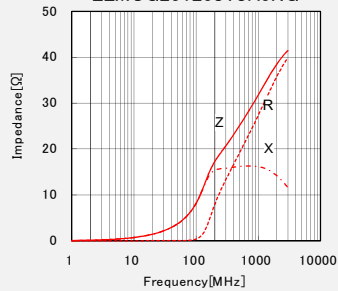


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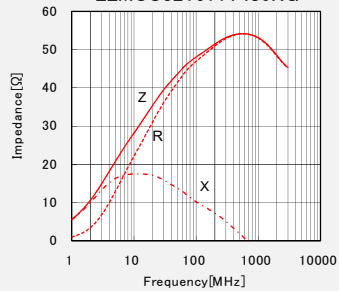


■ 3216 type

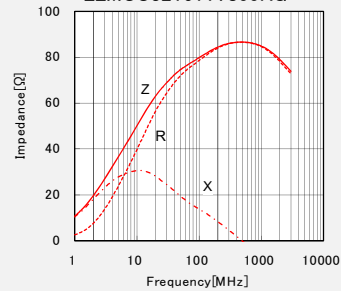
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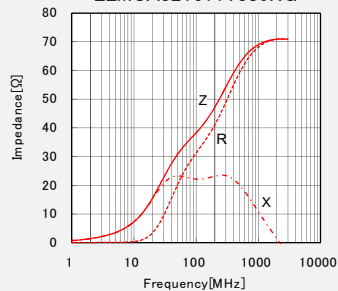
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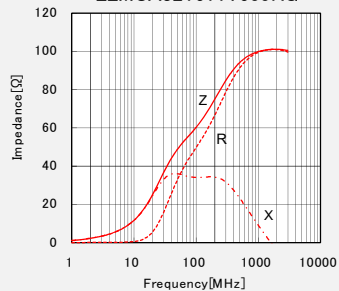
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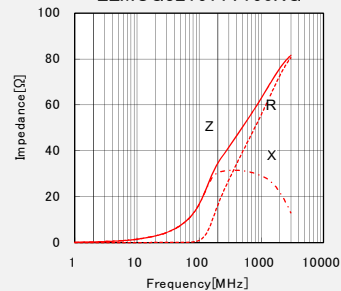
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LLMCA321611T600RG

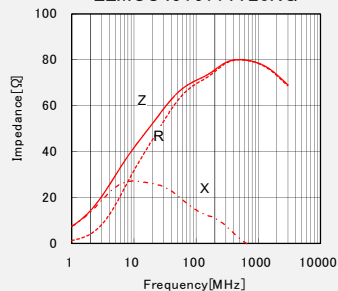


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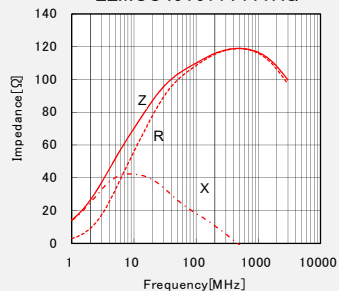


■ 4516 type

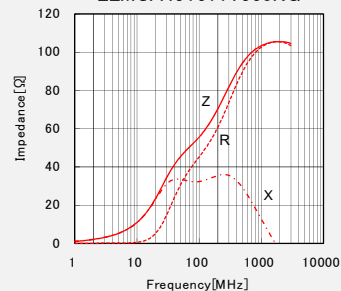
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LLMCC451611T111RG



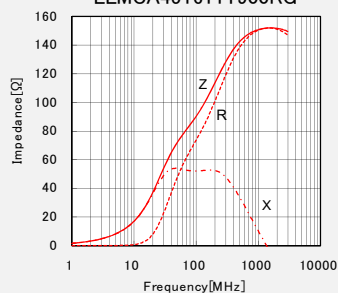
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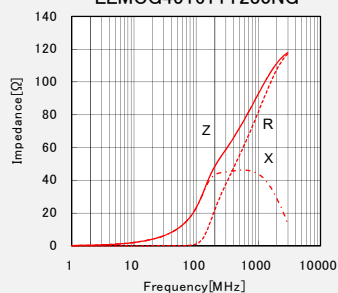
► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification.
For details of each product (characteristics graph, reliability information, precautions for use, and so on), see our Web site (<http://www.ty-top.com/>).

ELECTRICAL CHARACTERISTICS

LLMCA451611T900RG



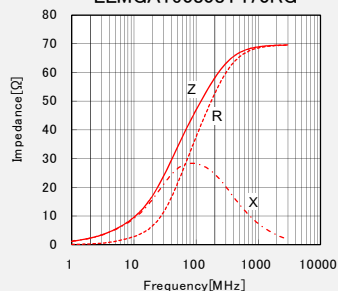
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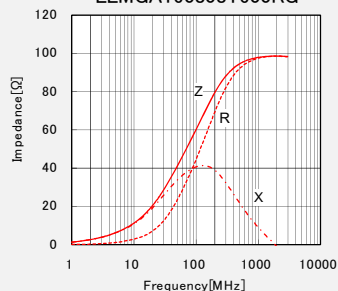
High impedance type GHz Band

■ 1608 type

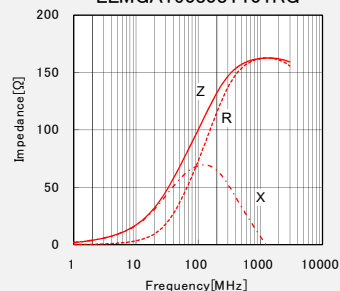
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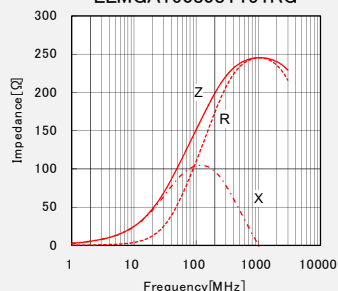
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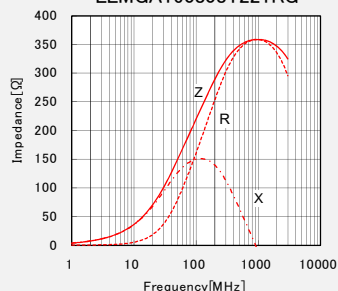
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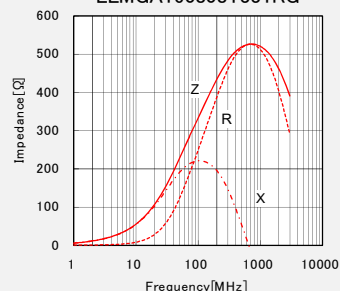
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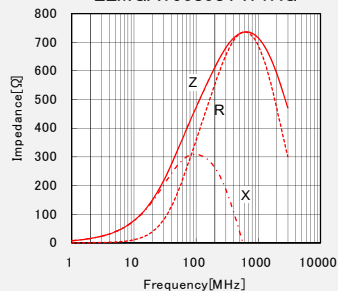
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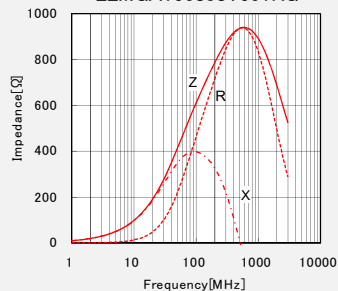
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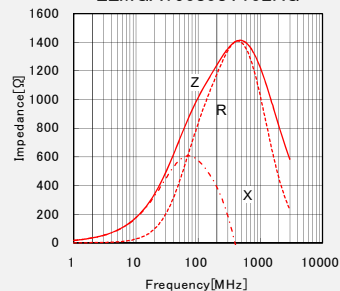
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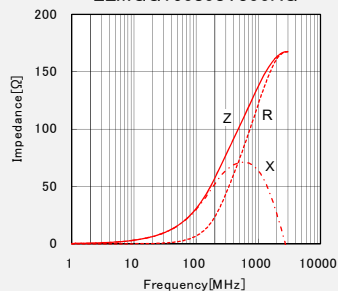
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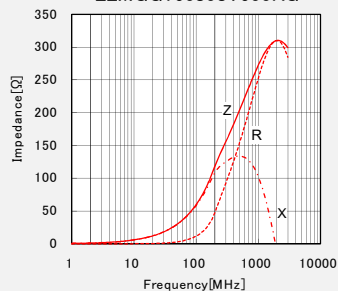
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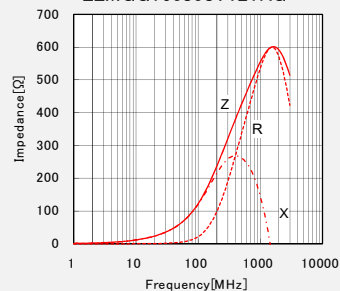
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LLMGG160808T600RG



LLMGG160808T121RG



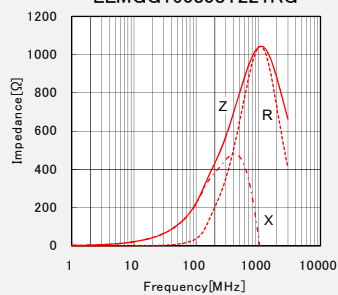
► This catalog contains the typical specification only due to the limitation of space. When you consider the purchase of our products, please check our specification.
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TAIYO YUDEN

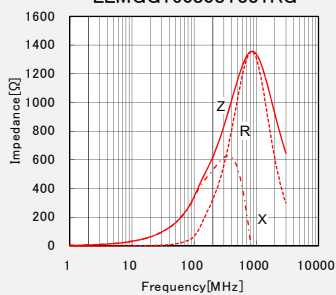
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ELECTRICAL CHARACTERISTICS

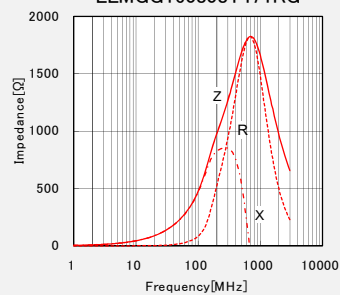
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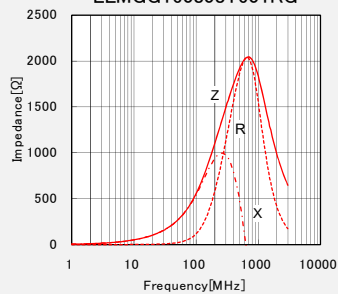
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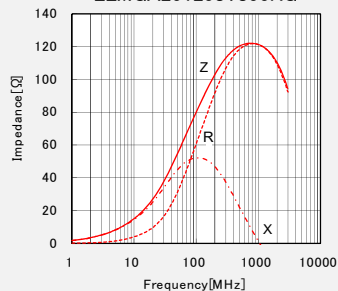
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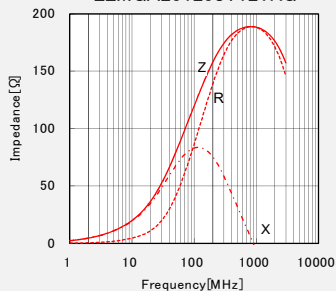
High impedance type

■ 2012 type

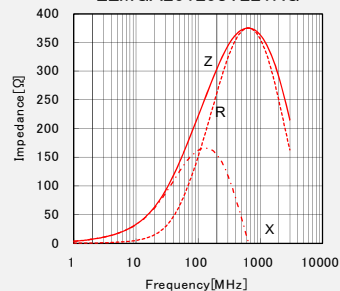
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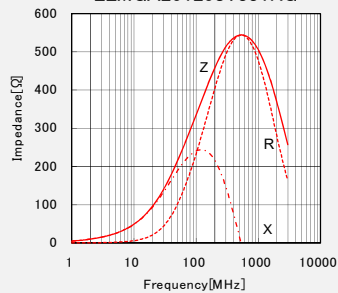
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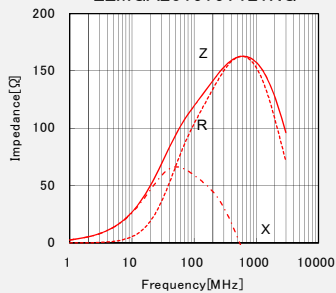


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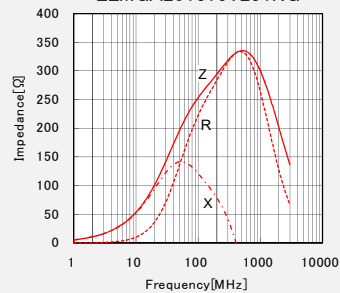


■ 2016 type

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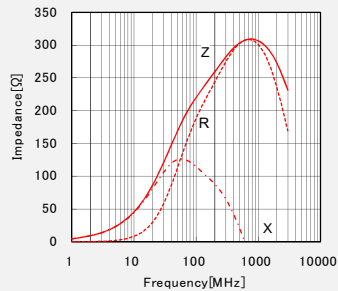


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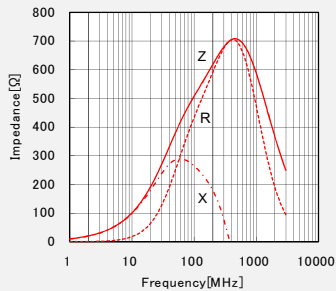


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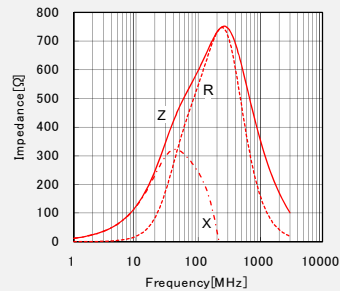


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■ 3225 type

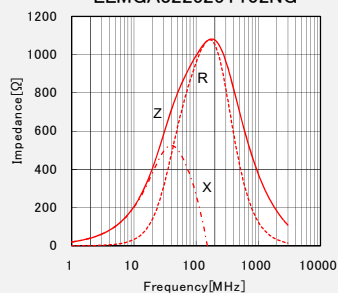
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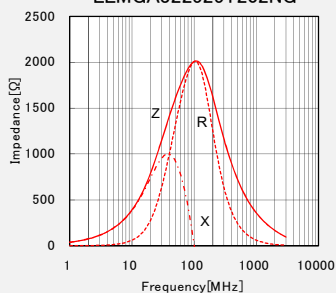
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ELECTRICAL CHARACTERISTICS

LLMGA322525T102NG

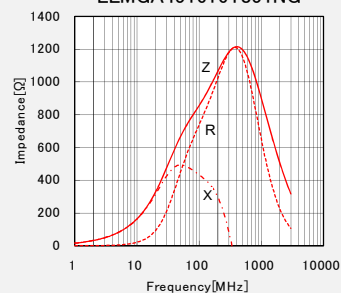


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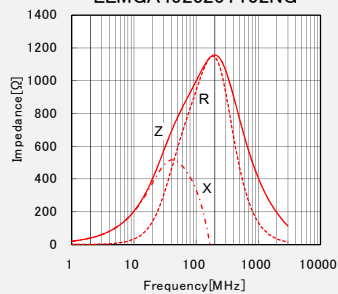
4516 type

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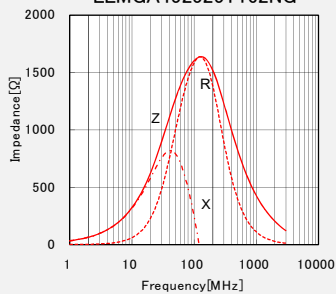


4525 type

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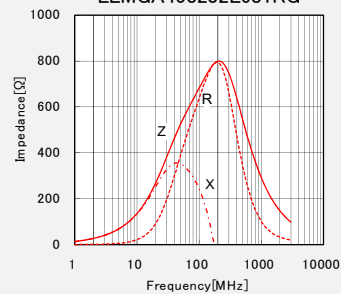


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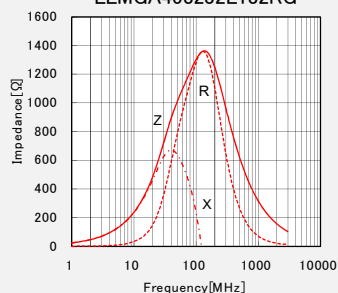


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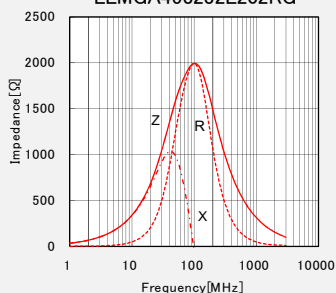
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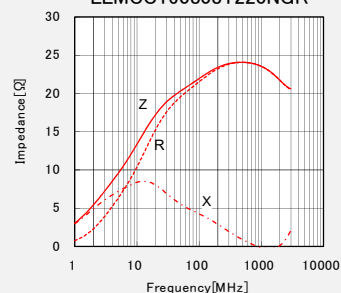


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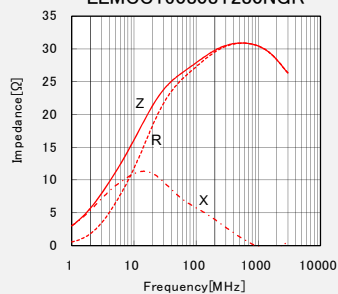


High current type

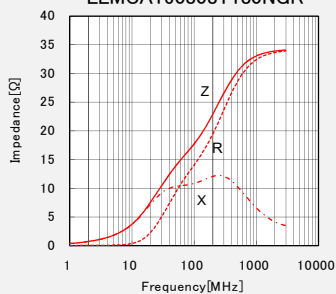
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