

EMC对策专用磁珠—TLEA 系列

EMC Chip Ferrite Bead – TLEA 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

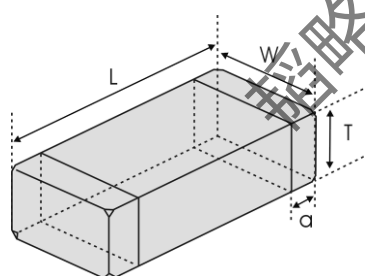
APPLICATIONS

- 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

<u>TLEA</u> ①	<u>1608</u> ②	<u>D</u> ③	<u>121</u> ④	<u>T</u> ⑤	<u>F</u> ⑥																			
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<table><tr><th colspan="2">Type</th></tr><tr><td>TLEA</td><td>Chip Ferrite Bead for General Use</td></tr></table>		Type		TLEA	Chip Ferrite Bead for General Use	<table><tr><th colspan="2">External Dimensions (L×W) (mm)</th></tr><tr><td>0603 [0201]</td><td>0.6×0.3</td></tr><tr><td>1005 [0402]</td><td>1.0×0.5</td></tr><tr><td>1608 [0603]</td><td>1.6×0.8</td></tr><tr><td>2012 [0805]</td><td>2.0×1.25</td></tr><tr><td>3216 [1206]</td><td>3.2×1.6</td></tr></table>		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	<table><tr><th>Material Code</th></tr><tr><td>D, E, U</td></tr></table>			Material Code	D, E, U
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SHAPE AND DIMENSIONS



Unit: mm [inch]

Type	L	W	T	a
0603 [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]
1005 [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]
1608 [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]
2012 [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]
3216 [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

TLEA0603 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	I _r	T
TLEA0603D600TF	60±25%	100	0.40	200	0.3±0.05 [.012±.002]
TLEA0603D800TF	80±25%	100	0.60	200	
TLEA0603D121TF	120±25%	100	0.80	200	
TLEA0603D241TF	240±25%	100	1.00	200	
TLEA0603D601TF	600±25%	100	1.70	200	

TLEA1005 TYPE

Part Number	Impedance	Z Test Frequency	Max. DC Resistance	Max. Rated Current	Thickness
Units 单位	Ω	MHz	Ω	mA	mm [inch]
Symbol 符号	Z	Freq.	DCR	I _r	T
TLEA1005D100TF	0~15	100	0.05	500	0.5±0.15 [.020±.006]
TLEA1005D310TF	31±25%	100	0.20	300	
TLEA1005D600TF	60±25%	100	0.30	200	
TLEA1005D800TF	80±25%	100	0.35	200	
TLEA1005D121TF	120±25%	100	0.40	200	
TLEA1005D221TF	220±25%	100	0.45	150	
TLEA1005D301TF	300±25%	100	0.50	100	
TLEA1005D421TF	420±25%	100	0.60	100	
TLEA1005D501TF	500±25%	100	0.80	100	
TLEA1005D601TF	600±25%	100	0.90	100	
TLEA1005D751TF	750±25%	100	1.00	100	
TLEA1005D102TF	1000±25%	100	1.20	100	
TLEA1005D152TF	1500±25%	100	1.60	100	
TLEA1005E800TF	80±25%	100	0.35	200	
TLEA1005E121TF	120±25%	100	0.40	200	
TLEA1005E241TF	240±25%	100	0.50	200	
TLEA1005E601TF	600±25%	100	0.90	100	
TLEA1005U100TF	0~15	100	0.05	500	
TLEA1005U300TF	30±25%	100	0.20	300	
TLEA1005U700TF	70±25%	100	0.30	200	
TLEA1005U121TF	120±25%	100	0.40	200	
TLEA1005U221TF	220±25%	100	0.50	100	
TLEA1005U301TF	300±25%	100	0.60	100	
TLEA1005U421TF	420±25%	100	0.80	100	
TLEA1005U601TF	600±25%	100	0.90	100	
TLEA1005U102TF	1000±25%	100	1.20	100	

TLEA1608 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	I _r	T
TLEA1608D110TF	0~15	100	0.05	2000	0.8±0.15 [.031±.006]
TLEA1608D300TF	30±25%	100	0.05	2000	
TLEA1608D600TF	60±25%	100	0.10	500	
TLEA1608D800TF	80±25%	100	0.15	400	
TLEA1608D101TF	100±25%	100	0.20	300	
TLEA1608D121TF	120±25%	100	0.20	300	

SPECIFICATIONS

TLEA1608 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	I _r	T
TLEA1608D221TF	220±25%	100	0.30	300	0.8±0.15 [.031±.006]
TLEA1608D301TF	300±25%	100	0.35	200	
TLEA1608D471TF	470±25%	100	0.45	200	
TLEA1608D601TF	600±25%	100	0.45	200	
TLEA1608D751TF	750±25%	100	0.50	200	
TLEA1608D102TF	1000±25%	100	0.60	200	
TLEA1608D152TF	1500±25%	100	0.70	150	
TLEA1608D182TF	1800±25%	100	0.90	100	
TLEA1608D202TF	2000±25%	100	1.20	100	
TLEA1608D222TF	2200±25%	100	1.20	100	
TLEA1608E121TF	120±25%	100	0.20	300	
TLEA1608E181TF	180±25%	100	0.30	300	
TLEA1608E601TF	600±25%	100	0.45	200	
TLEA1608E102TF	1000±25%	100	0.60	200	
TLEA1608U100TF	0~15	100	0.05	2000	
TLEA1608U300TF	30±25%	100	0.05	2000	
TLEA1608U600TF	60±25%	100	0.10	500	
TLEA1608U121TF	120±25%	100	0.20	300	
TLEA1608U221TF	220±25%	100	0.30	300	
TLEA1608U301TF	300±25%	100	0.35	200	
TLEA1608U471TF	470±25%	100	0.40	200	
TLEA1608U601TF	600±25%	100	0.50	200	
TLEA1608U102TF	1000±25%	100	0.60	200	

TLEA2012 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	I _r	T
TLEA2012D070TF	0~15	100	0.04	2000	0.85±0.2 [.033±.008]
TLEA2012D190TF	19±25%	100	0.04	2000	
TLEA2012D300TF	30±25%	100	0.05	1500	
TLEA2012D800TF	80±25%	100	0.10	1000	
TLEA2012D121TF	120±25%	100	0.15	800	
TLEA2012D181TF	180±25%	100	0.18	700	
TLEA2012D221TF	220±25%	100	0.20	600	
TLEA2012D301TF	300±25%	100	0.20	500	
TLEA2012D421TF	420±25%	100	0.30	500	
TLEA2012D501TF	500±25%	100	0.30	500	
TLEA2012D601TF	600±25%	100	0.30	500	
TLEA2012D751TF	750±25%	100	0.35	500	
TLEA2012D102TF	1000±25%	100	0.35	500	
TLEA2012D152TF	1500±25%	100	0.40	500	
TLEA2012D202TF	2000±25%	100	0.50	500	
TLEA2012E800TF	80±25%	100	0.10	1000	
TLEA2012E181TF	180±25%	100	0.20	600	
TLEA2012E301TF	300±25%	100	0.20	500	
TLEA2012E501TF	500±25%	100	0.30	500	
TLEA2012E601TF	600±25%	100	0.30	500	

SPECIFICATIONS

TLEA2012 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	I _r	T
TLEA2012E102TF	1000±25%	100	0.35	500	0.85±0.2 [.033±.008]
TLEA2012U100TF	0~15	100	0.04	2200	
TLEA2012U170TF	17±25%	100	0.04	2000	
TLEA2012U300TF	30±25%	100	0.05	1500	
TLEA2012U700TF	70±25%	100	0.10	1000	
TLEA2012U121TF	120±25%	100	0.15	800	
TLEA2012U221TF	220±25%	100	0.20	600	
TLEA2012U301TF	300±25%	100	0.20	500	
TLEA2012U421TF	420±25%	100	0.25	500	
TLEA2012U601TF	600±25%	100	0.30	500	
TLEA2012U102TF	1000±25%	100	0.40	500	

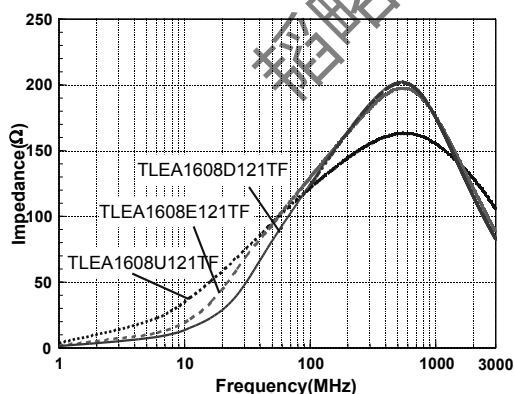
TLEA3216 TYPE

Part Number	Impedance	Z Test Frequency	Max.DC Resistance	Max.Rated Current	Thickness
Units	Ω	MHz	Ω	mA	mm [inch]
Symbol	Z	Freq.	DCR	I _r	T
TLEA3216D000TF	0~15	100	0.03	2200	0.85±0.2 [.033±.008]
TLEA3216D310TF	31±25%	100	0.05	2000	
TLEA3216D600TF	60±25%	100	0.10	1000	
TLEA3216D800TF	80±25%	100	0.10	1000	
TLEA3216D121TF	120±25%	100	0.10	1000	
TLEA3216D221TF	220±25%	100	0.20	600	
TLEA3216D301TF	300±25%	100	0.20	600	
TLEA3216D501TF	500±25%	100	0.30	600	
TLEA3216D601TF	600±25%	100	0.30	600	
TLEA3216D102TF	1000±25%	100	0.60	500	
TLEA3216D122TF	1200±25%	100	0.60	300	
TLEA3216U601TF	600±25%	100	0.30	600	

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

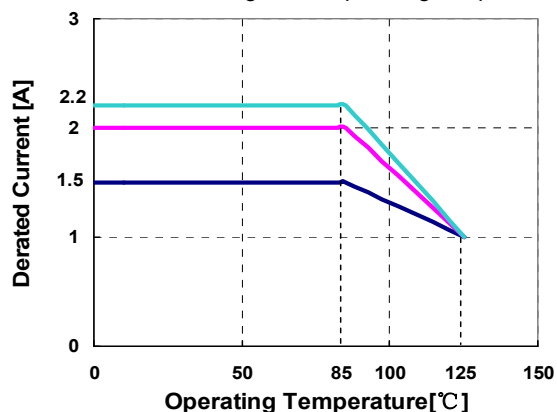
TYPICAL ELECTRICAL CHARACTERISTICS

D, E, U Material Comparison



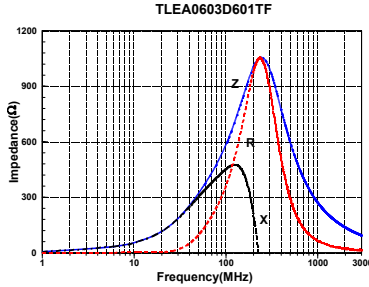
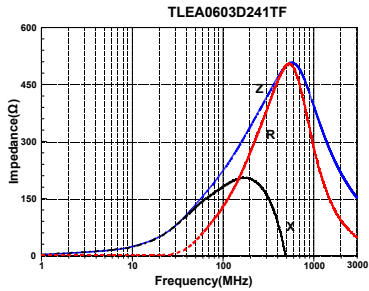
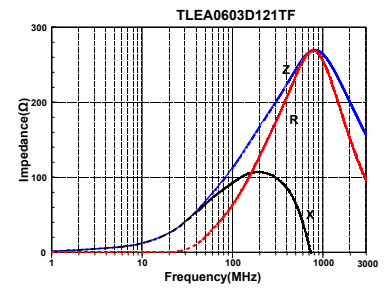
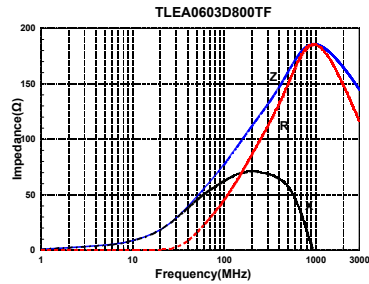
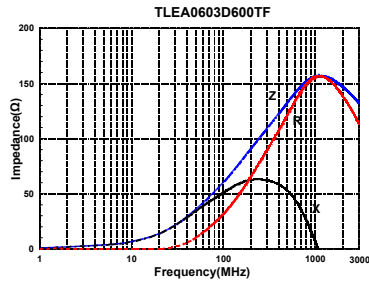
Rated Current

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.

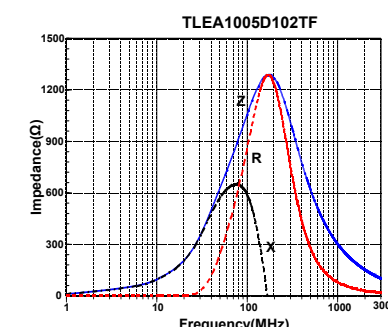
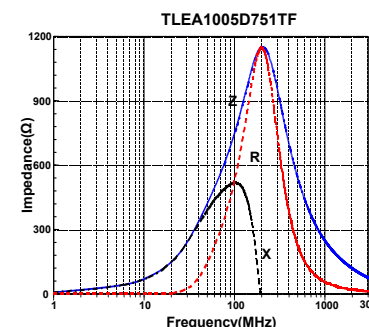
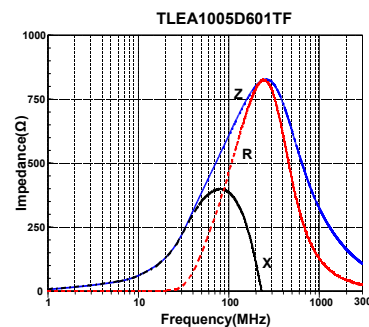
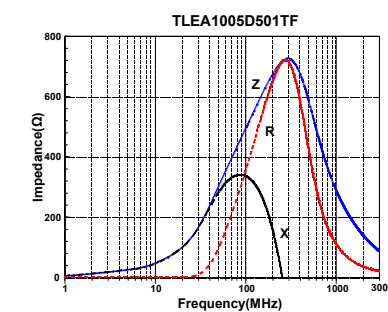
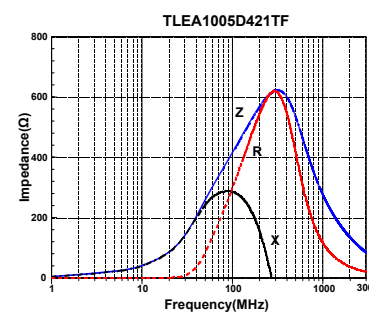
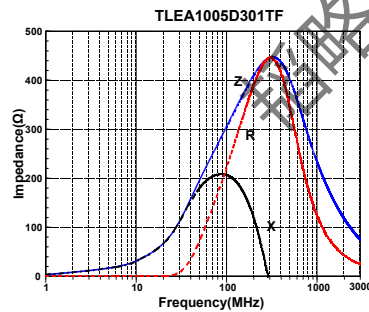
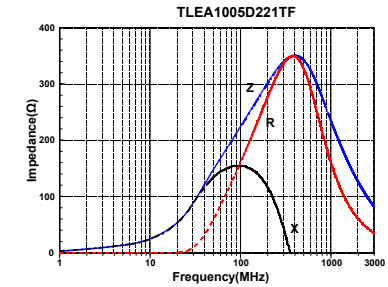
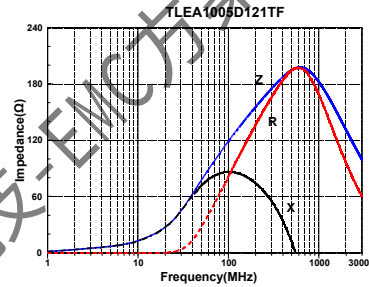
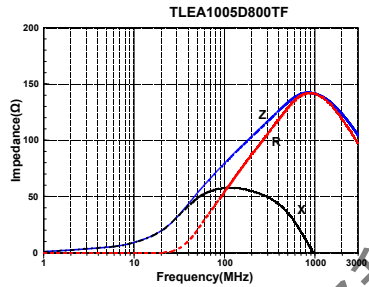
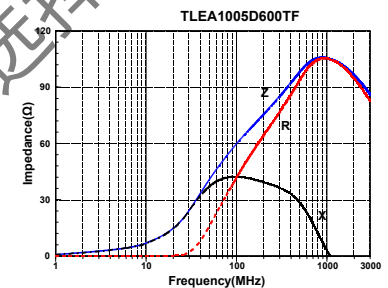
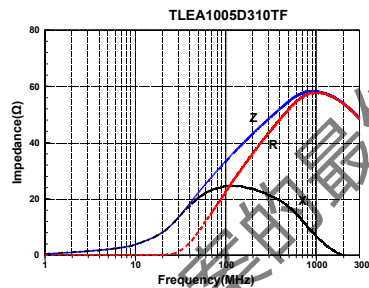
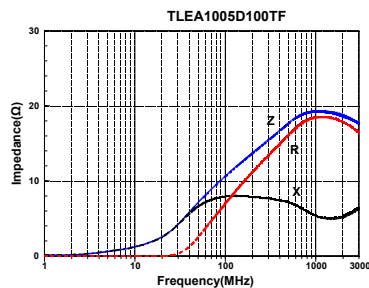


DETAIL ELECTRICAL CHARACTERISTICS

TLEA0603 TYPE

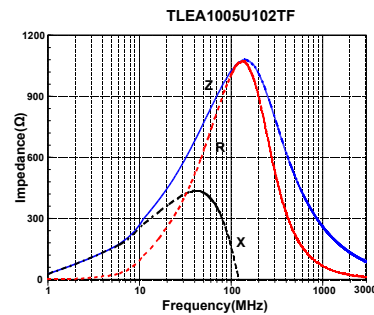
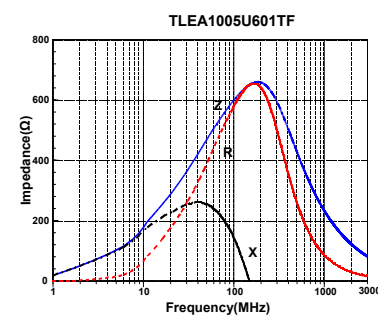
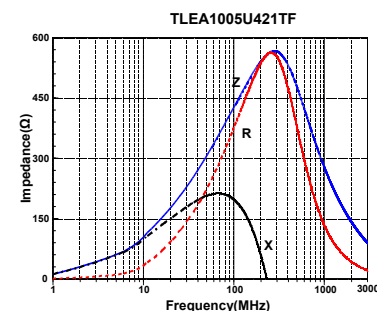
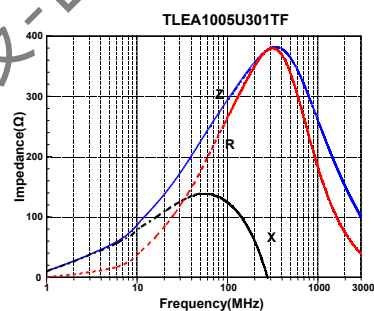
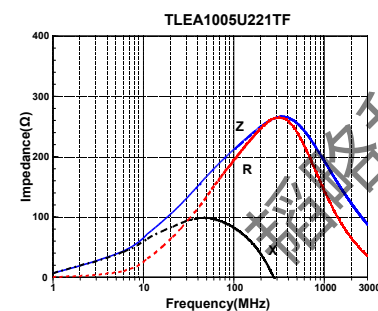
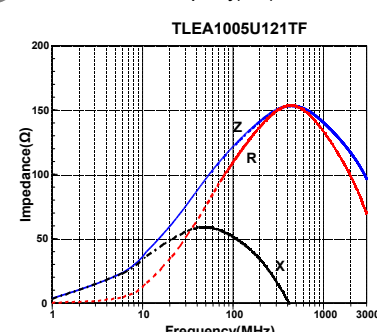
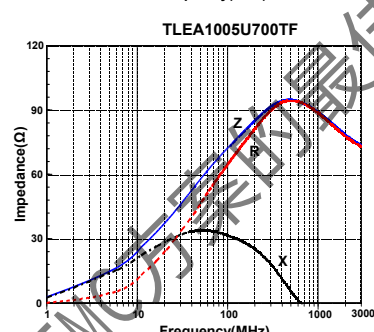
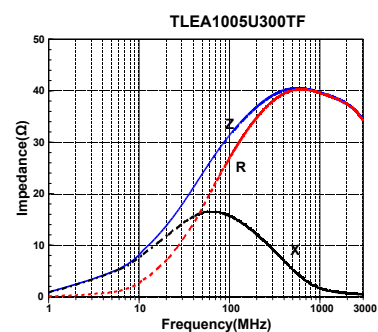
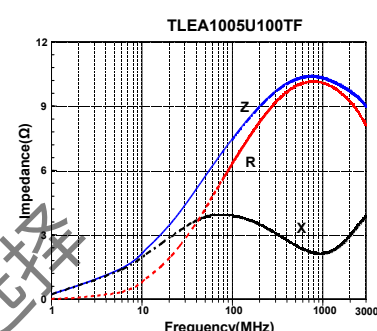
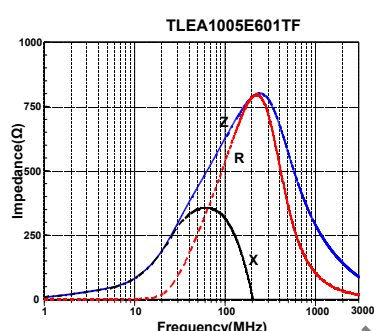
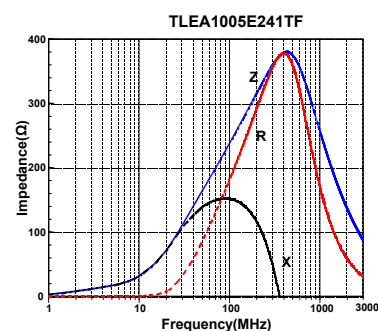
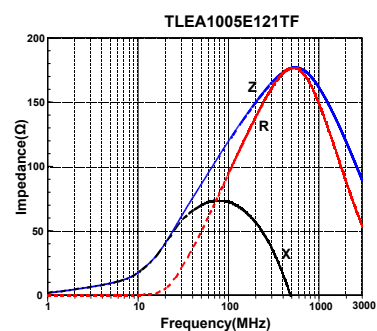
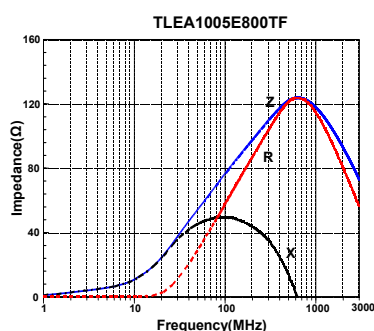
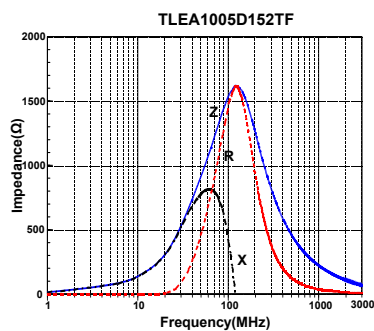


TLEA1005 TYPE



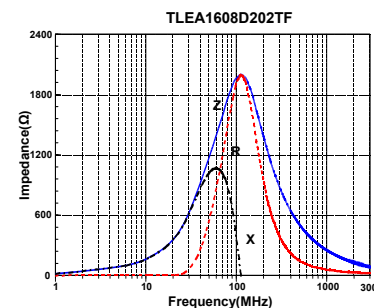
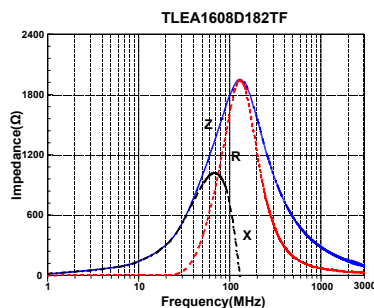
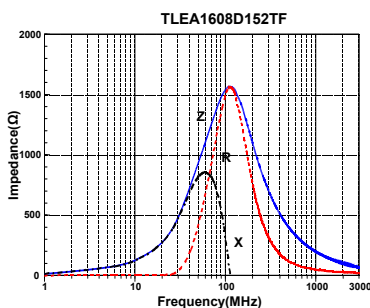
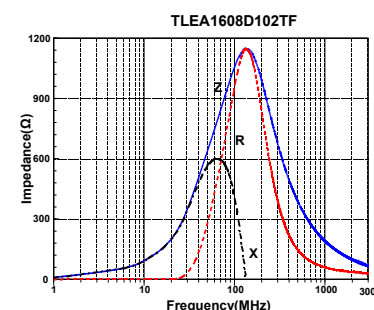
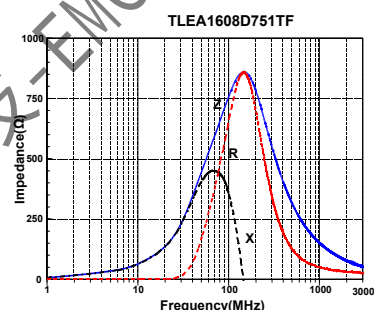
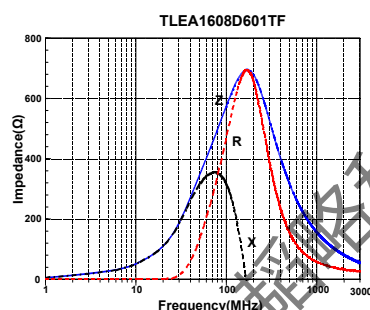
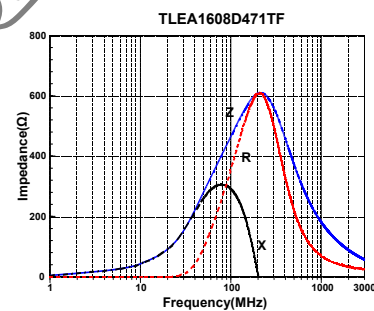
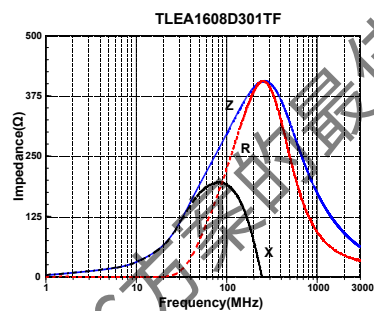
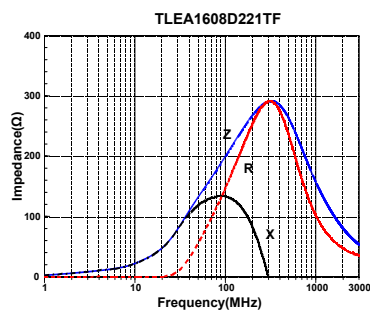
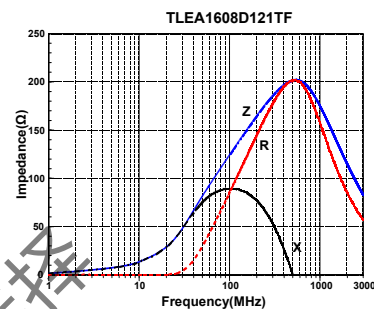
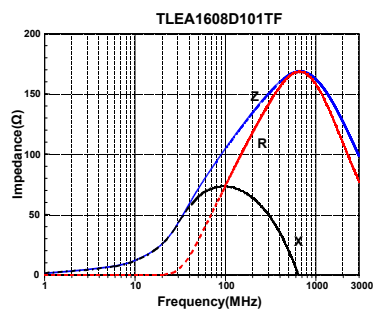
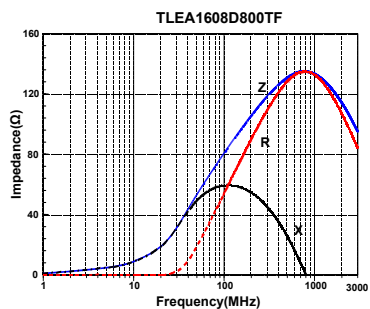
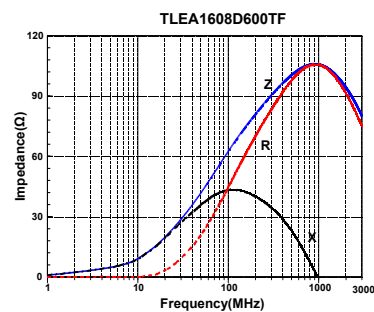
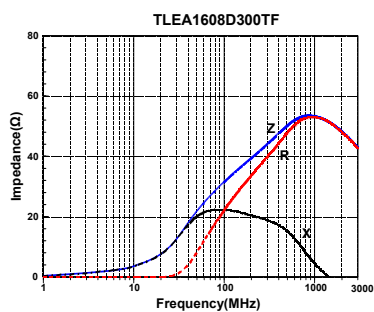
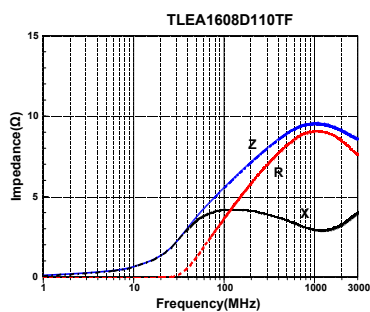
DETAIL ELECTRICAL CHARACTERISTICS

TLEA1005 TYPE



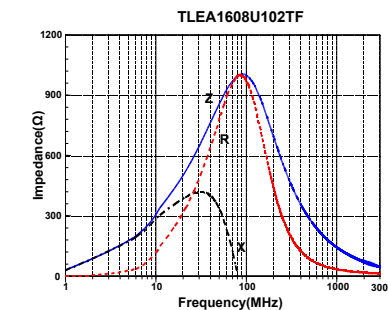
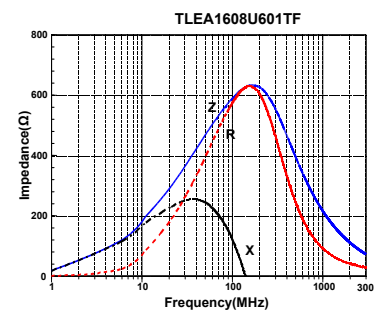
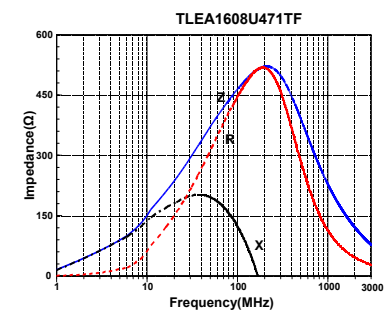
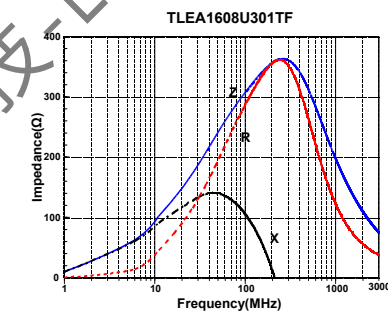
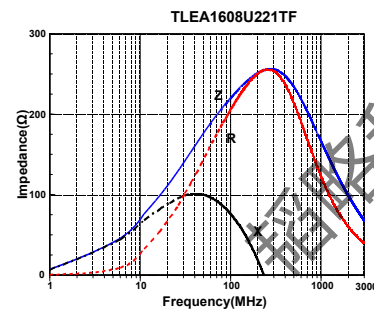
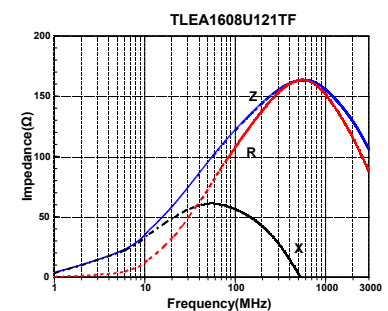
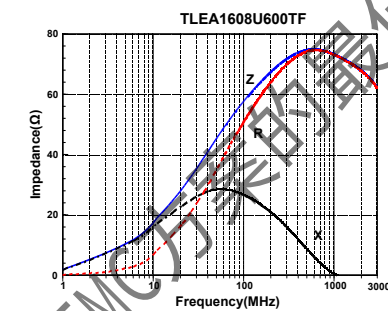
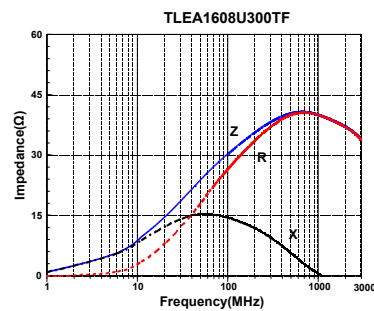
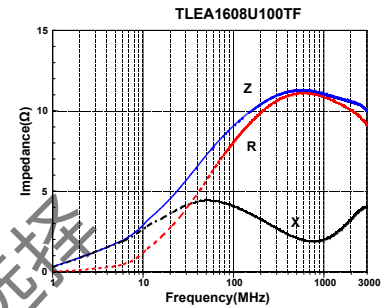
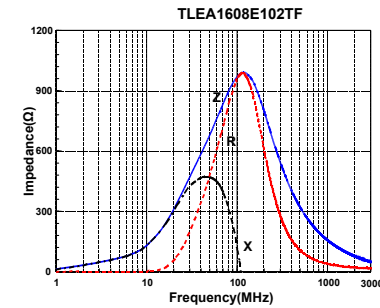
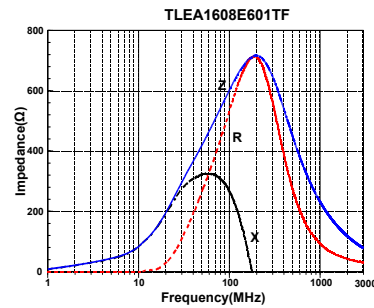
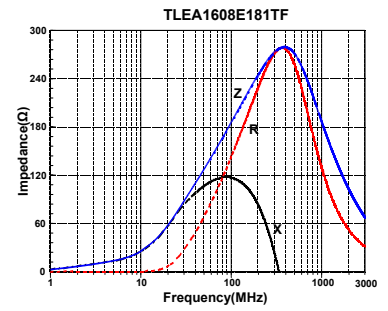
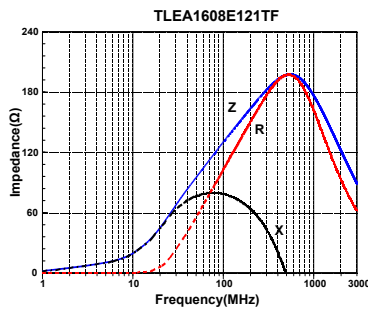
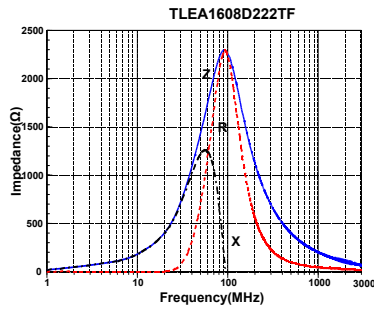
DETAIL ELECTRICAL CHARACTERISTICS

TLEA1608 TYPE

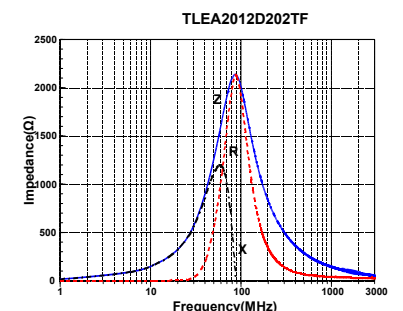
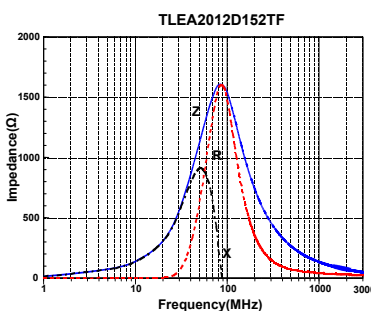
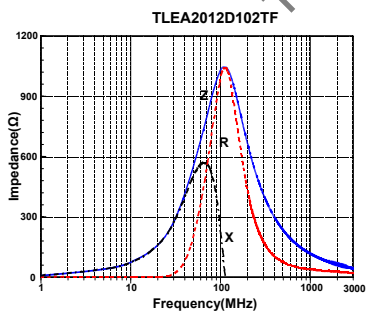
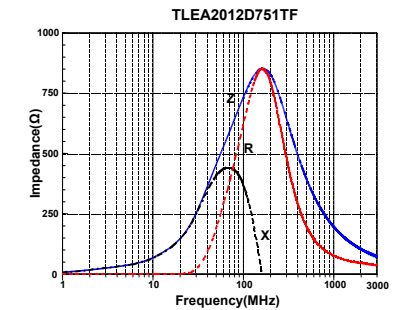
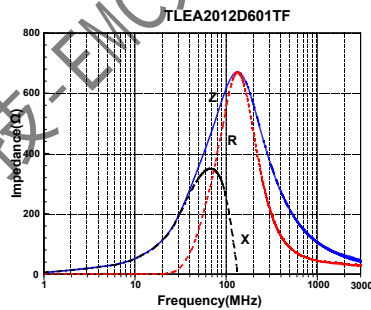
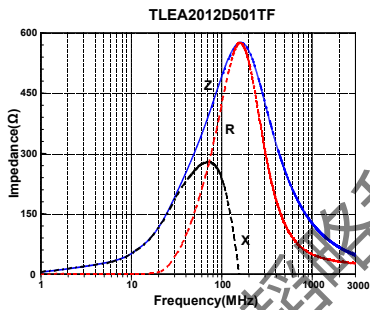
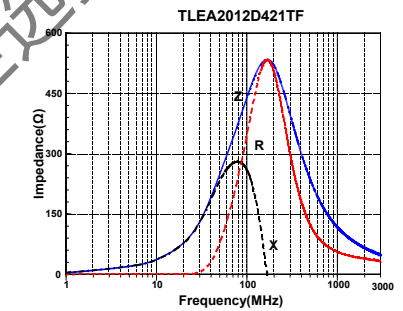
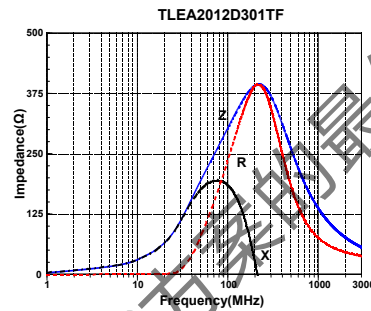
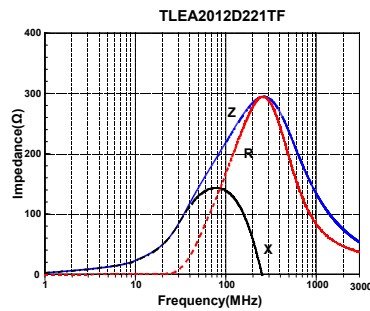
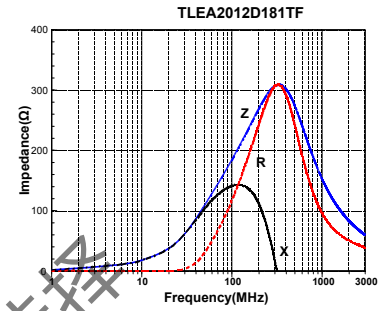
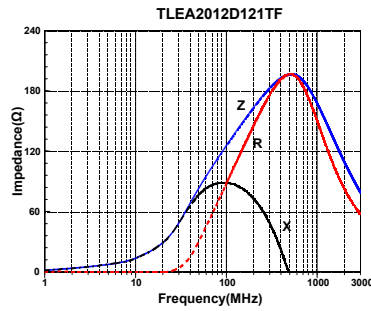
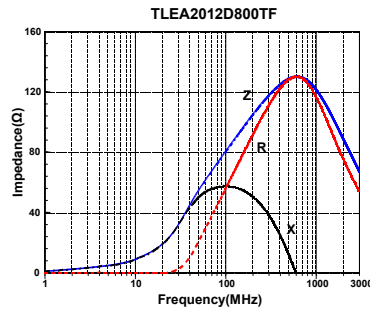
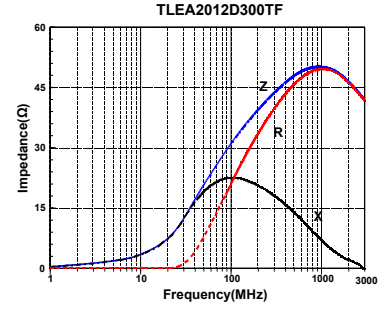
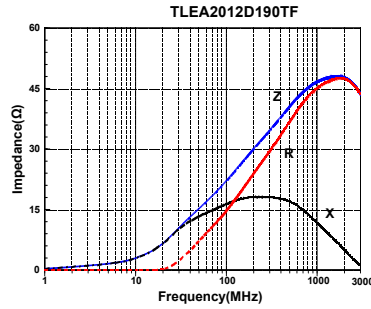
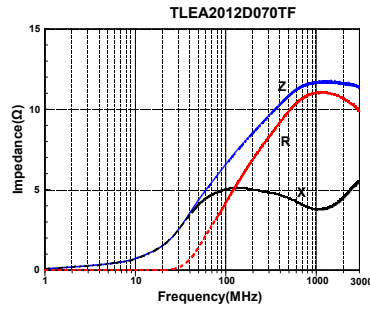


DETAIL ELECTRICAL CHARACTERISTICS

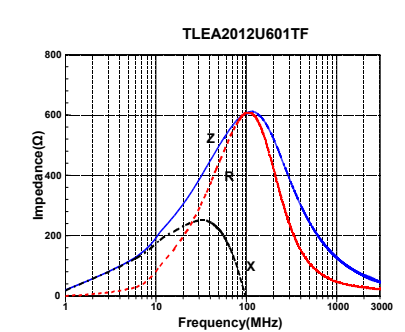
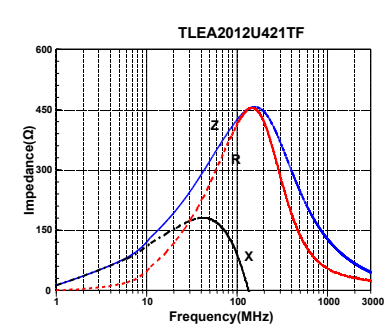
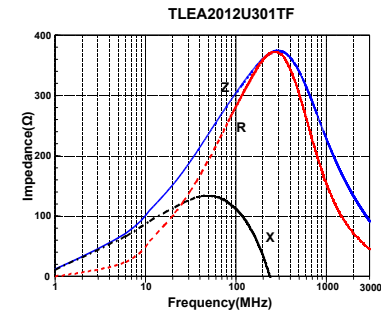
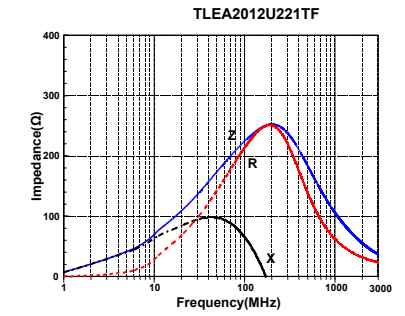
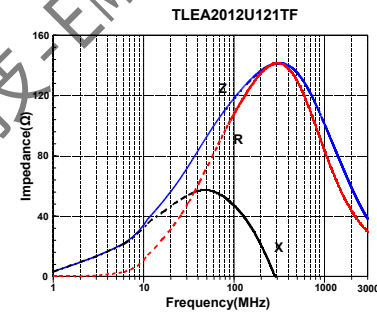
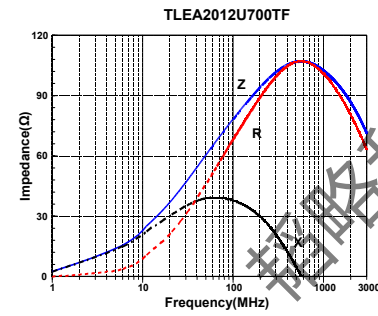
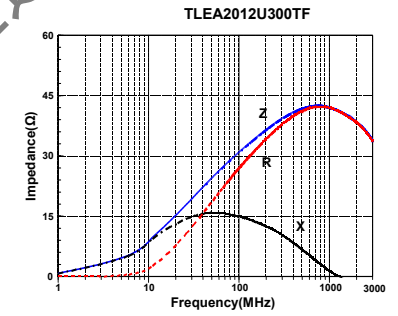
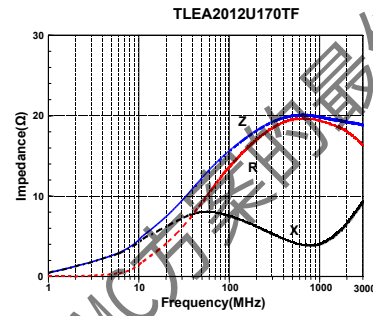
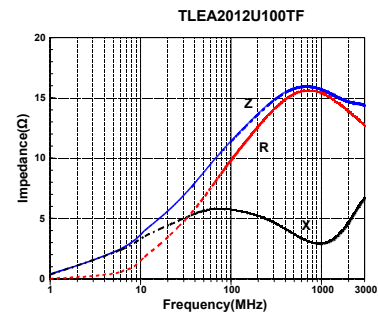
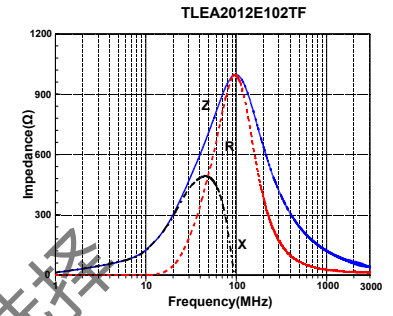
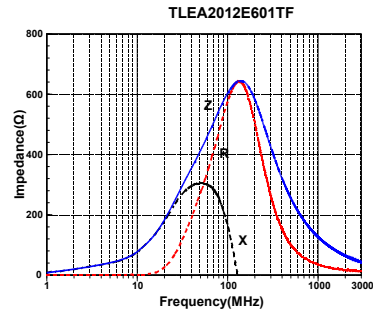
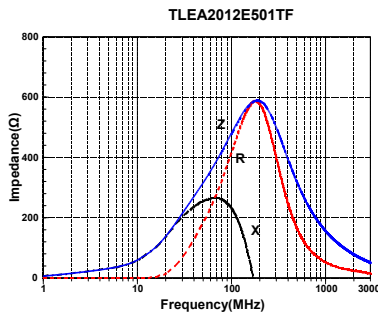
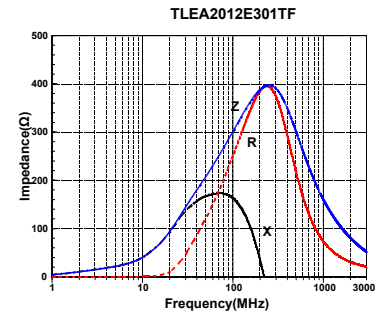
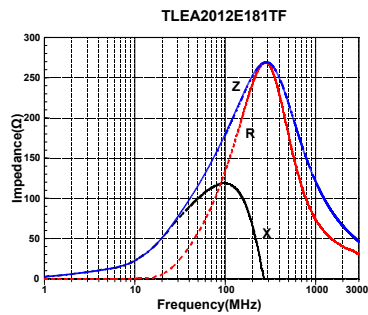
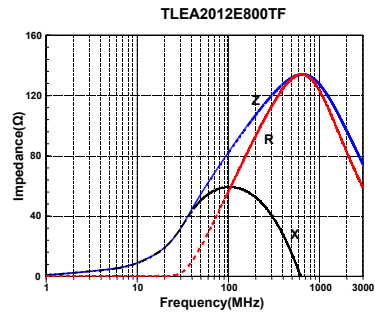
TLEA1608 TYPE



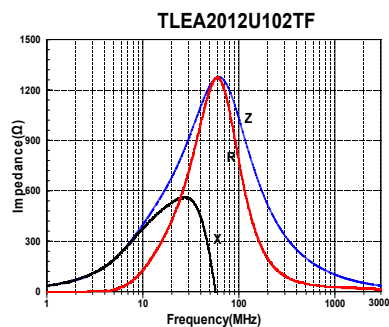
TLEA2012 TYPE



TLEA2012 TYPE



TLEA2012 TYPE



TLEA3216 TYPE

