

MULTILAYER FERRITE CHIP BEAD FOR GENERAL USE

片式铁氧体普通磁珠



PFGB SERIES



深圳嘉嵘伟业电子有限公司

SHENZHEN JIARONG WEIYE ELECTRONICS CO.,LTD.

Tel:0755-2917 5978

FAX:133 7842 9168

Website:www.ransioning.com

E-mail:admin@ransioning.com

Multilayer Ferrite Chip Bead for General Use-PFGB Series

片式铁氧体普通磁珠-PFGB 系列



INTRODUCTION AND CHARACTERISTICS 产品介绍及特性

INTRODUCTION	产品介绍
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◆ A ferrite bead is a passive electric component that suppresses high frequency noise in electronic circuits. It is a specific type of electronic choke. Ferrite beads employ the dissipation of high frequency currents in a ferrite ceramic to build high frequency noise suppression devices.

◆磁珠是一种被动元件，用来抑制电路中的高频噪声。磁珠是一种特别的扼流圈，其成份多半为铁氧体，利用其高频电流产生的热耗散来抑制高频噪声。

CHARACTERISTICS	特性
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◆ Monolith structure for high reliability
 ◆ Under the same size the multilayer chip beads produce higher impedance than plug-in beads
 ◆ No cross coupling due to magnetic shield
 ◆ Perfect shape for mounting with no directionality
 ◆ Excellent solderability and high heat resistance for reflow soldering or wave soldering

◆ 积层独石结构、高可靠性
 ◆ 在同样的尺寸下较插装磁珠有更高的阻抗值
 ◆ 良好的磁屏蔽，无交叉耦合
 ◆ 无引线结构，适合表面安装
 ◆ 良好的焊接性，适合于回流焊或波峰焊

APPLICATIONS	应用产品
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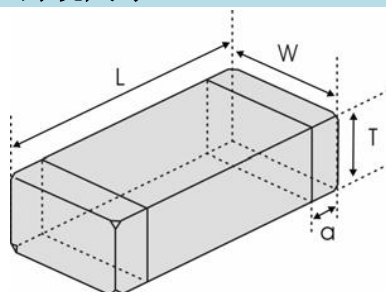
◆ Mother board,tablet PC,notebook,desktop computers and peripheral equipment
 ◆ DSC,DVC,LCD Television,Set Top Box
 ◆ Mobile phone,smart phone,PHD
 ◆ Redialed noise suppression on digital product clock lines signal lines and suppression noise on circuit

◆ 主机板，平板电脑，笔记型，桌上型电脑及其周边设备
 ◆ 数位相机，数位摄影机，液晶电视机，数位机上盒
 ◆ 行动电话，智能手机，个人导航设备
 ◆ 用于数据传输线、信号线。电源及回路部分的抗干扰

PRODUCT IDENTIFICATION 产品型号

PFGB 2012 M 601 T
 ① ② ③ ④ ⑤

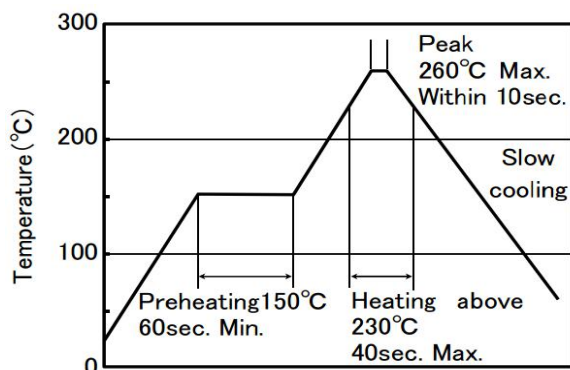
①Product Series Code 产品系列码	PFGB	Multilayer Ferrite Chip Bead for General Use 片式铁氧体普通磁珠
②Size Code 尺寸码	2012	长×宽 (L×W) (mm) 2.0×1.2
③Material Code 材质代号	--	P M S
④Nominal Impedance 阻抗	600	60 Ω
	601	600 Ω
⑤Packing 包装形式	T	Tape and Reel 编带

SHAPE AND DIMENSIONS 外观尺寸


SIZE 尺寸	L 长 mm	W 宽 mm	T 厚 mm	a 银厚 mm
0402(01005)	0.4±0.02	0.2±0.02	0.2±0.02	0.08~0.14
0603(0201)	0.6±0.05	0.3±0.05	0.3±0.05	0.1~0.2
1005(0402)	1.0±0.15	0.5±0.15	0.5±0.15	0.15~0.35
1608(0603)	1.6±0.15	0.8±0.15	0.8±0.15	0.1~0.5
2012(0805)	2.0±0.2	1.25±0.2	0.85±0.2	0.2~0.8
3216(1206)	3.2±0.2	1.6±0.2	0.85±0.2	0.2~0.8
			1.1±0.2	
3225(1210)	3.2±0.2	2.5±0.2	1.3±0.2	0.6~1.0
4516(1806)	4.5±0.2	1.6±0.2	1.6±0.2	0.6~1.0
4532(1812)	4.5±0.2	3.2±0.2	1.5±0.2	0.6~1.0

STORAGE AND OPERATING CONDITIONS 储存及操作条件

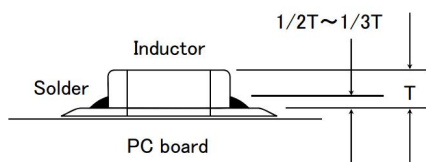
Operating Temperature Range	-55℃~+125℃
Storage Temperature and Humidity Range	-10℃~+40℃, 70%RH max.

RECOMMENDED SOLDERING CONDITION 建议焊锡方式
REFLOW SOLDERING 回流焊


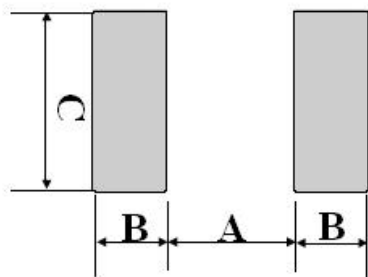
- ① Ceramic chip components should be preheated to within 100 to 130°C of the soldering.
- ② Assured to be reflow soldering for 2 times.

Caution:

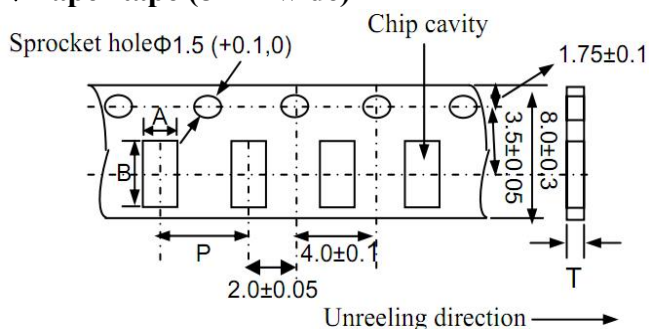
1) The ideal condition is to have solder mass (fillet) controlled to 1/2 to 1/3 of the thickness of the inductor.



2) Because excessive dwell times can detrimentally affect solderability, soldering duration should be kept as close to recommended times as possible.

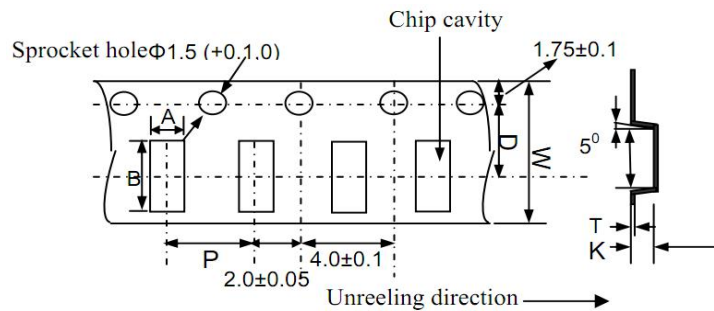
RECOMMENDED LAND PATTERN 推荐的焊盘尺寸


Dimension (mm)	A (mm)	B (mm)	C (mm)
0402	0.2	0.15~0.2	0.18~0.2
0603	0.2~0.3	0.2~0.3	0.3~0.35
1005	0.45~0.55	0.40~0.50	0.45~0.55
1608	0.6~0.8	0.6~0.8	0.6~0.8
2012	0.8~1.2	0.8~1.2	0.9~1.6
3216	1.8~2.5	1.0~1.5	1.2~2.0
3225	1.9~2.1	1.2~1.5	2.6~2.8
4516	2.8~3.0	1.5~1.8	1.2~2.0
4532	2.8~3.0	1.5~1.8	3.3~3.6

PACKING STANDARD 包装标准
Taping Dimensions
◆ Paper tape (8mm wide)


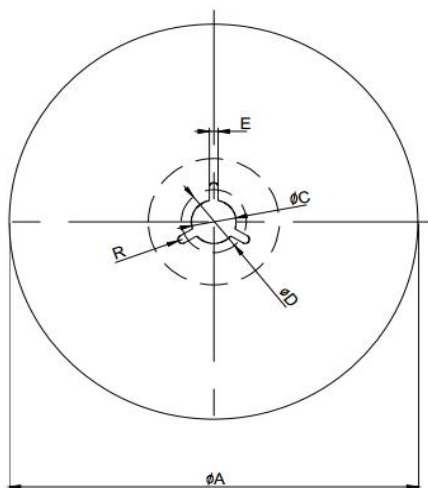
Type	Chip Thickness	A	B	P	T max.	Quantity (pcs/reel)
	(mm)					ø178mm Reel
PFGB0402	0.20	0.26	0.46	2	0.40	20000
PFGB0603	0.30	0.40	0.70	2	0.55	15000
PFGB1005	0.50	0.65	1.15	2	0.80	10000
PFGB1608	0.80	1.00	1.80	4	1.10	4000
PFGB2012	0.85	1.50	2.30	4	1.10	4000
PFGB3216	0.85	1.90	3.50	4	1.10	4000

◆ Embossed Tape



Type	Chip Thickness	W	A	B	D	P	K max.	T max.	Quantity (pcs/reel)
	(mm)								ø178mm
PFGB3216	1.10	8	1.88	3.5	3.5	4	1.27	0.30	3000
PFGB3225	1.30	8	2.90	3.6	3.5	4	1.70	0.25	2000
PFGB4516	1.60	12	1.90	4.9	5.5	4	1.93	0.24	2000
PFGB4532	1.50	12	3.60	4.9	5.5	4	2.05	0.30	1000

◆ Reel Dimensions



Symbol	ø178mm Reel	Ø330mm Reel
A	Ø178±2	Ø330±2
B	Ø60±2	Ø100±2
C	Ø13±0.8	Ø13±0.8
D	Ø21±0.8	Ø21±0.8
E	2	2
W8	10±1.5	10±1.5
W12	14.5±1.5	14.5±1.5
W16	--	17.4(Typ.)
W24	--	24.4(Typ.)
T	2±0.5	2±0.5
R	1	1

SPECIFICATIONS 规格特性
PFGB 0402(01005) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB0402M100T	0~15	0.07	750	0.2±0.02
PFGB0402M700T	70	0.36	300	0.2±0.02
PFGB0402M121T	120	0.70	210	0.2±0.02
PFGB0402M151T	150	0.70	200	0.2±0.02
PFGB0402M241T	240	1.00	200	0.2±0.02

PFGB 0603(0201) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB0603M600T	60	0.40	200	0.3±0.05
PFGB0603M800T	80	0.60	200	0.3±0.05
PFGB0603M121T	120	0.80	200	0.3±0.05
PFGB0603M241T	240	1.00	200	0.3±0.05
PFGB0603M601T	600	1.70	200	0.3±0.05

PFGB 1005(0402) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB1005M100T	0~15	0.05	500	0.5±0.15
PFGB1005M310T	31	0.20	300	0.5±0.15
PFGB1005M600T	60	0.30	200	0.5±0.15
PFGB1005M800T	80	0.35	200	0.5±0.15
PFGB1005M121T	120	0.40	200	0.5±0.15
PFGB1005M221T	220	0.45	150	0.5±0.15
PFGB1005M301T	300	0.50	100	0.5±0.15
PFGB1005M421T	420	0.60	100	0.5±0.15
PFGB1005M501T	500	0.80	100	0.5±0.15
PFGB1005M601T	600	0.90	100	0.5±0.15
PFGB1005M751T	750	1.00	100	0.5±0.15
PFGB1005M102T	1000	1.20	100	0.5±0.15
PFGB1005M152T	1500	1.60	100	0.5±0.15
PFGB1005P100T	0~15	0.05	500	0.5±0.15
PFGB1005P300T	30	0.20	300	0.5±0.15
PFGB1005P700T	70	0.30	200	0.5±0.15
PFGB1005P121T	120	0.40	200	0.5±0.15
PFGB1005P221T	220	0.50	100	0.5±0.15

PFGB1005P301T	300	0.60	100	0.5±0.15
PFGB1005P421T	420	0.80	100	0.5±0.15
PFGB1005P601T	600	0.90	100	0.5±0.15
PFGB1005P102T	1000	1.20	100	0.5±0.15

SPECIFICATIONS 规格特性
PFGB 1608(0603) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB1608M100T	0~15	0.05	2000	0.8±0.15
PFGB1608M300T	30	0.05	2000	0.8±0.15
PFGB1608M600T	60	0.10	500	0.8±0.15
PFGB1608M800T	80	0.15	400	0.8±0.15
PFGB1608M101T	100	0.20	300	0.8±0.15
PFGB1608M121T	120	0.20	300	0.8±0.15
PFGB1608M221T	220	0.30	300	0.8±0.15
PFGB1608M301T	300	0.35	200	0.8±0.15
PFGB1608M471T	470	0.45	200	0.8±0.15
PFGB1608M601T	600	0.45	200	0.8±0.15
PFGB1608M751T	750	0.50	200	0.8±0.15
PFGB1608M102T	1000	0.60	200	0.8±0.15
PFGB1608M151T	1500	0.70	150	0.8±0.15
PFGB1608M182T	1800	0.90	100	0.8±0.15
PFGB1608M202T	2000	1.20	100	0.8±0.15
PFGB1608M222T	2200	1.20	100	0.8±0.15
PFGB1608P100T	0~15	0.05	2000	0.8±0.15
PFGB1608P300T	30	0.05	2000	0.8±0.15
PFGB1608P600T	60	0.10	500	0.8±0.15
PFGB1608P121T	120	0.20	300	0.8±0.15
PFGB1608P221T	220	0.30	300	0.8±0.15
PFGB1608P301T	300	0.35	200	0.8±0.15
PFGB1608P471T	470	0.40	200	0.8±0.15
PFGB1608P601T	600	0.50	200	0.8±0.15
PFGB1608P102T	1000	0.60	200	0.8±0.15

SPECIFICATIONS 规格特性
PFGB 2012(0805) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB2012M100T	0~15	0.04	2000	0.85±0.2
PFGB2012M190T	19	0.04	2000	0.85±0.2
PFGB2012M300T	30	0.05	1500	0.85±0.2
PFGB2012M600T	60	0.10	1000	0.85±0.2
PFGB2012M800T	80	0.10	1000	0.85±0.2
PFGB2012M101T	100	0.12	800	0.85±0.2
PFGB2012M121T	120	0.15	800	0.85±0.2
PFGB2012M181T	180	0.18	700	0.85±0.2
PFGB2012M221T	220	0.20	600	0.85±0.2
PFGB2012M301T	300	0.20	500	0.85±0.2
PFGB2012M421T	420	0.30	500	0.85±0.2
PFGB2012M501T	500	0.30	500	0.85±0.2
PFGB2012M601T	600	0.30	500	0.85±0.2
PFGB2012M751T	750	0.35	500	0.85±0.2
PFGB2012M102T	1000	0.35	500	0.85±0.2
PFGB2012M152T	1500	0.40	500	0.85±0.2
PFGB2012M202T	2000	0.50	500	0.85±0.2
PFGB2012P100T	0~15	0.04	2000	0.85±0.2
PFGB2012P170T	17	0.04	2000	0.85±0.2
PFGB2012P300T	30	0.05	1500	0.85±0.2
PFGB2012P700T	70	0.10	1000	0.85±0.2
PFGB2012P121T	120	0.15	800	0.85±0.2
PFGB2012P221T	220	0.20	600	0.85±0.2
PFGB2012P301T	300	0.20	500	0.85±0.2
PFGB2012P421T	420	0.25	500	0.85±0.2
PFGB2012P601T	600	0.30	500	0.85±0.2
PFGB2012P102T	1000	0.40	500	0.85±0.2

SPECIFICATIONS 规格特性
PFGB 3216(1206) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB3216M100T	0~15	0.03	2200	0.85±0.2
PFGB3216M310T	31	0.05	2000	0.85±0.2
PFGB3216M600T	60	0.10	1000	0.85±0.2
PFGB3216M800T	80	0.10	1000	0.85±0.2
PFGB3216M121T	120	0.10	1000	0.85±0.2
PFGB3216M221T	220	0.20	600	0.85±0.2
PFGB3216M301T	300	0.20	600	0.85±0.2
PFGB3216M501T	500	0.30	600	0.85±0.2
PFGB3216M601T	600	0.30	600	0.85±0.2
PFGB3216M102T	1000	0.60	500	0.85±0.2
PFGB3216M122T	1200	0.60	300	0.85±0.2

PFGB 3225(1210) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB3225M190T	12~25	0.10	1000	1.3±0.2
PFGB3225M260T	26	0.10	1000	1.3±0.2
PFGB3225M310T	31	0.10	1000	1.3±0.2
PFGB3225M600T	60	0.15	1000	1.3±0.2
PFGB3225M800T	80	0.20	400	1.3±0.2
PFGB3225M101T	100	0.20	400	1.3±0.2
PFGB3225M121T	120	0.20	400	1.3±0.2
PFGB3225M151T	150	0.30	400	1.3±0.2
PFGB3225M221T	220	0.40	400	1.3±0.2
PFGB3225M301T	300	0.40	400	1.3±0.2
PFGB3225M501T	500	0.40	300	1.3±0.2
PFGB3225M601T	600	0.40	300	1.3±0.2
PFGB3225M801T	800	0.40	300	1.3±0.2
PFGB3225M102T	1000	0.40	300	1.3±0.2

SPECIFICATIONS 规格特性
PFGB 4516(1806) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB4516M190T	12~25	0.10	1000	1.6 ± 0.2
PFGB4516M260T	26	0.10	1000	1.6 ± 0.2
PFGB4516M310T	31	0.15	1000	1.6 ± 0.2
PFGB4516M600T	60	0.20	1000	1.6 ± 0.2
PFGB4516M700T	70	0.25	500	1.6 ± 0.2
PFGB4516M800T	80	0.30	500	1.6 ± 0.2
PFGB4516M900T	90	0.35	500	1.6 ± 0.2
PFGB4516M121T	120	0.40	500	1.6 ± 0.2
PFGB4516M151T	150	0.40	500	1.6 ± 0.2
PFGB4516M221T	220	0.45	500	1.6 ± 0.2
PFGB4516M301T	300	0.45	500	1.6 ± 0.2
PFGB4516M501T	500	0.50	200	1.6 ± 0.2
PFGB4516M601T	600	0.50	200	1.6 ± 0.2
PFGB4516M801T	800	0.55	200	1.6 ± 0.2

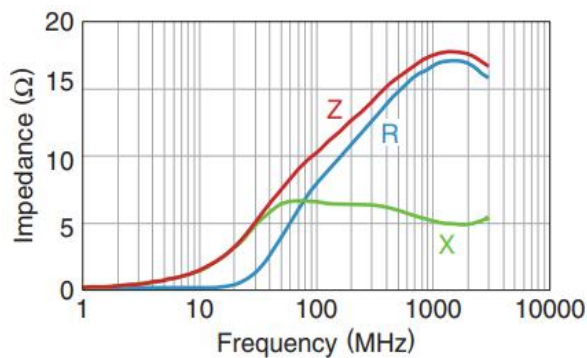
PFGB 4532(1812) TYPE

Part Number 型号	Impedance At 100MHz 阻抗 Z	DC Resistance 直流电阻 RDC	Rated Current 额定电流 Ir	Thickness 厚度
Units 单位	$\Omega \pm 25\%$	Ω (Max.)	mA (Max.)	mm
PFGB4532M190T	12~25	0.10	1000	1.5 ± 0.2
PFGB4532M380T	38	0.15	1000	1.5 ± 0.2
PFGB4532M700T	70	0.20	1000	1.5 ± 0.2
PFGB4532M800T	80	0.20	1000	1.5 ± 0.2
PFGB4532M101T	100	0.20	500	1.5 ± 0.2
PFGB4532M121T	120	0.25	500	1.5 ± 0.2
PFGB4532M151T	150	0.25	500	1.5 ± 0.2
PFGB4532M221T	220	0.30	300	1.5 ± 0.2
PFGB4532M301T	300	0.30	300	1.5 ± 0.2
PFGB4532M601T	600	0.40	200	1.5 ± 0.2

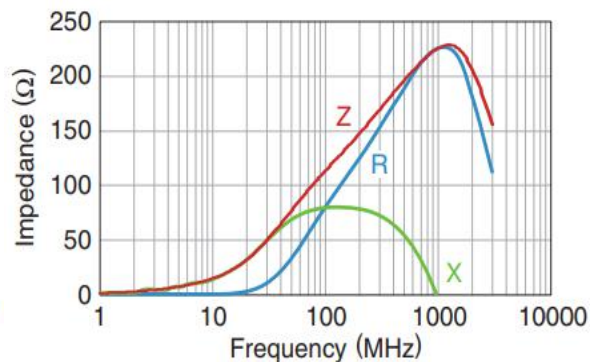
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

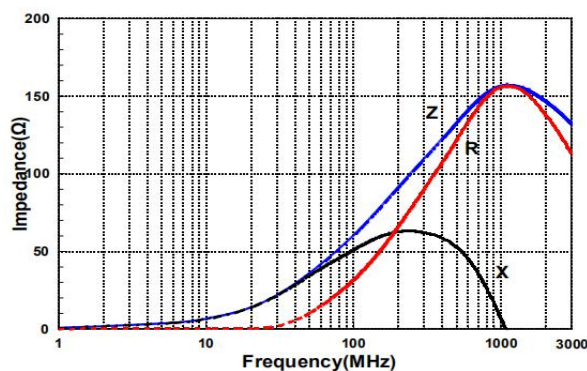
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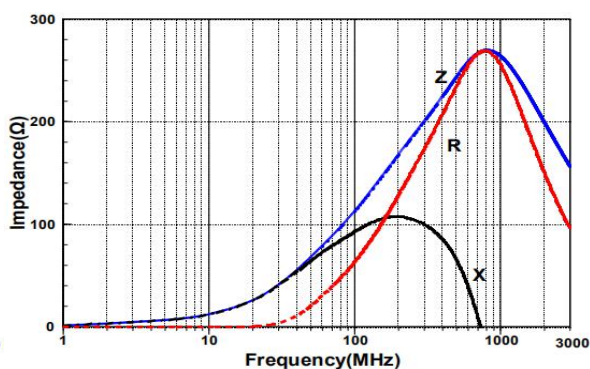
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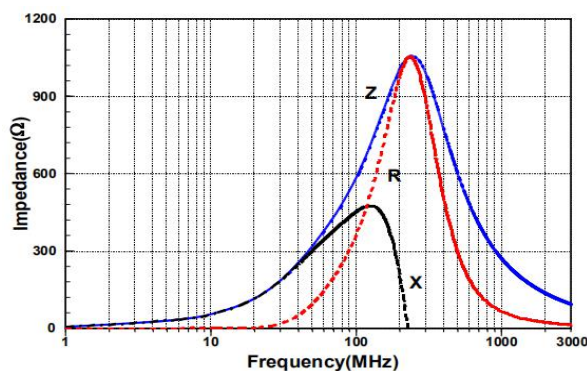
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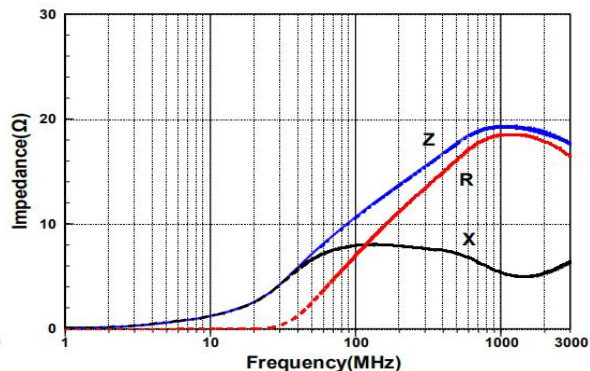
PFGB0603M121



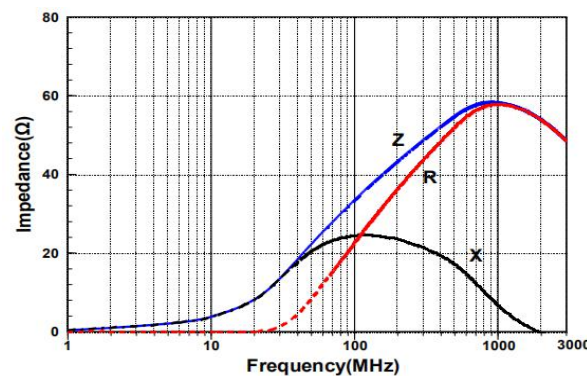
PFGB0603M601



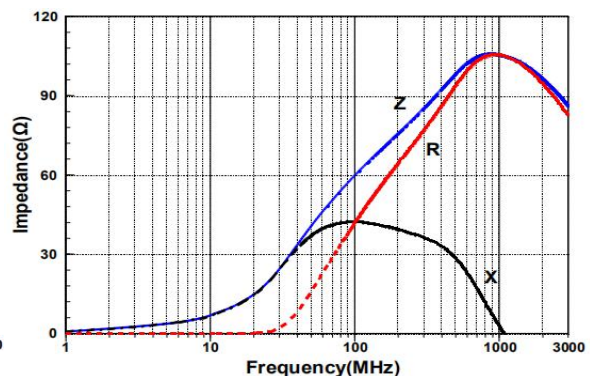
PFGB1005M100



PFGB1005M310



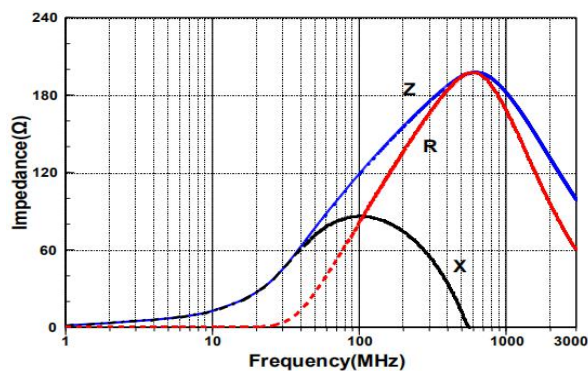
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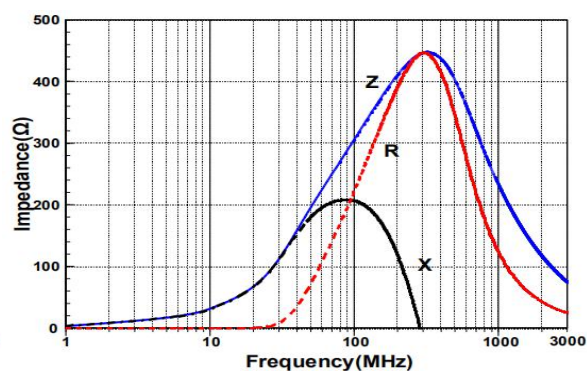
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

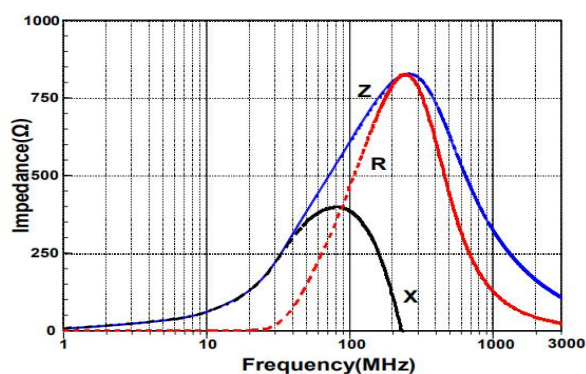
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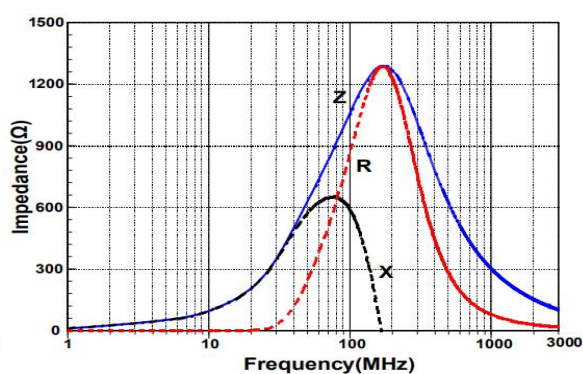
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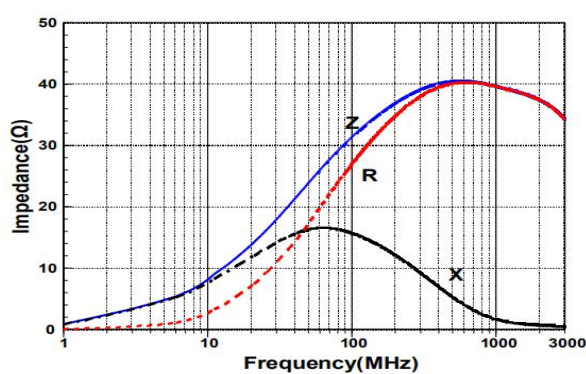
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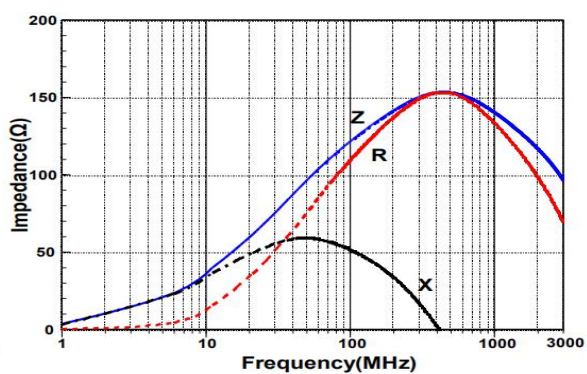
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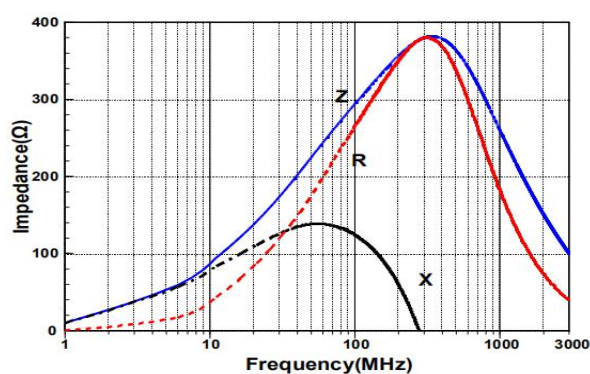
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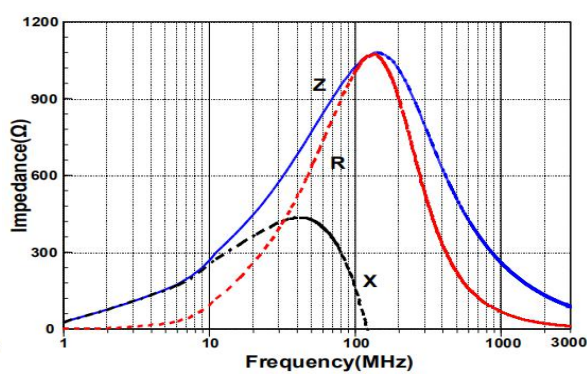
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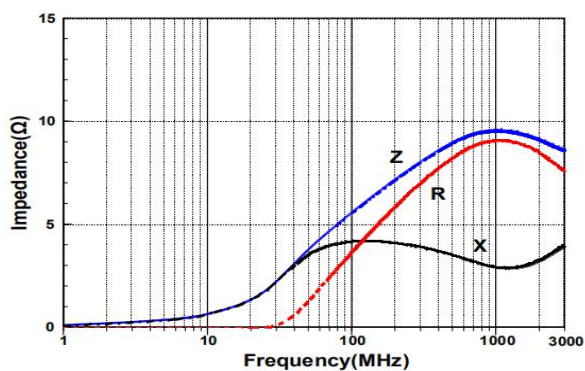
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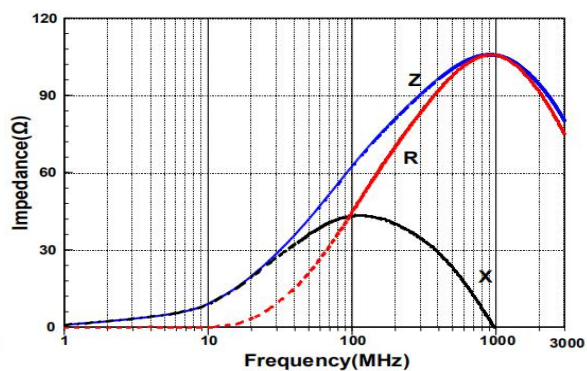
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

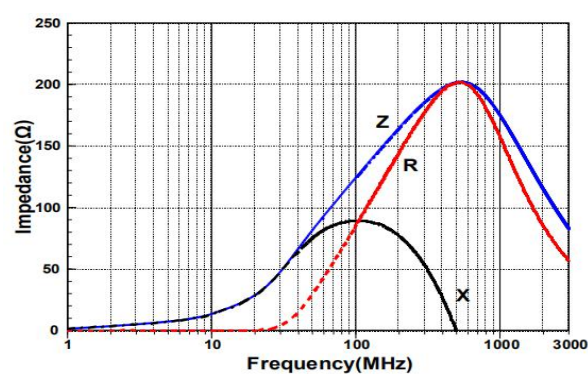
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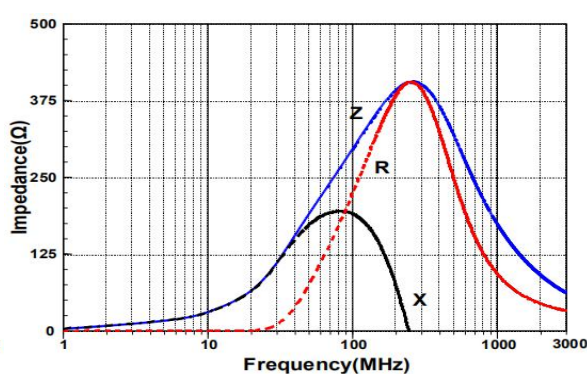
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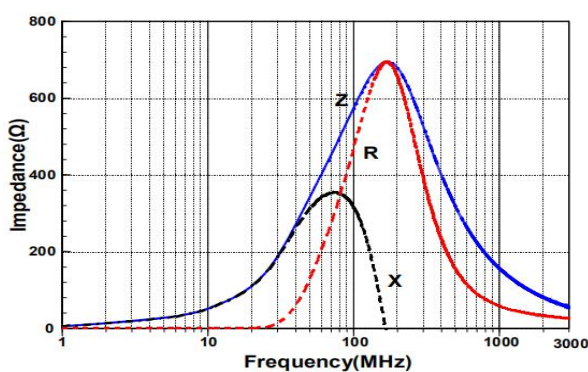
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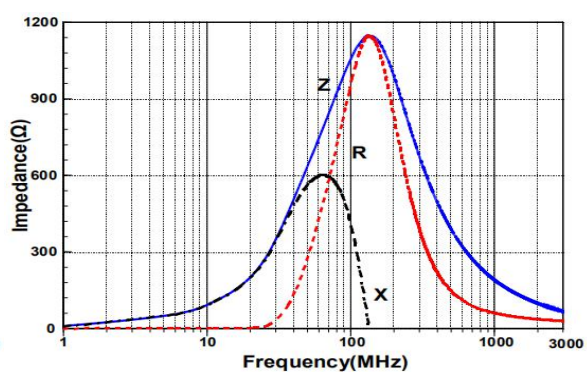
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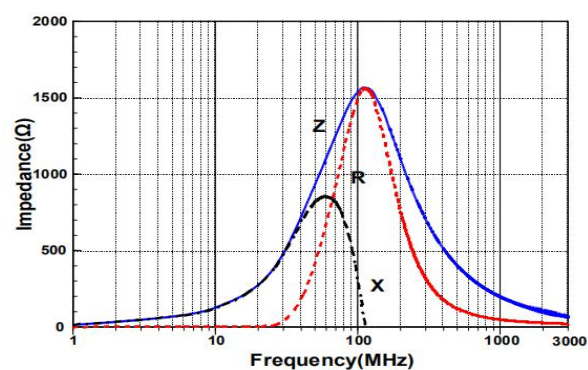
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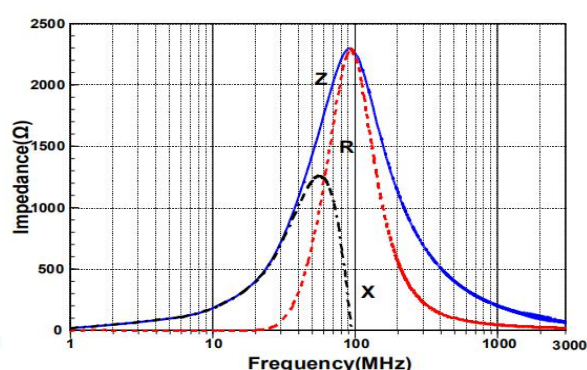
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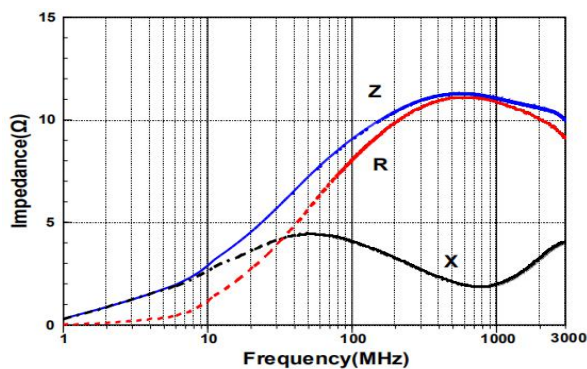
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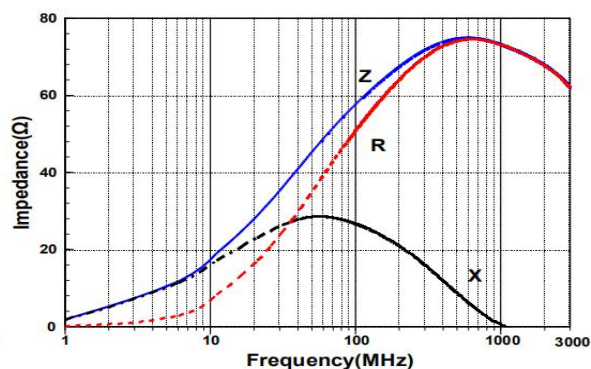
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

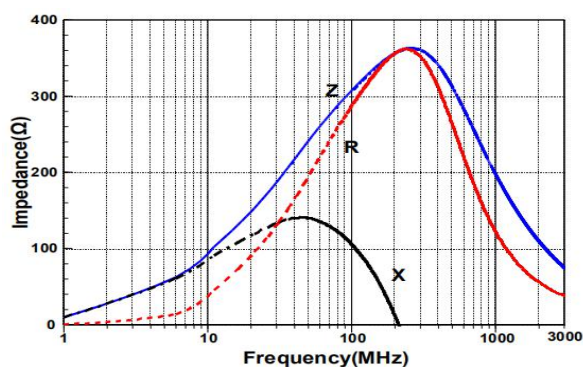
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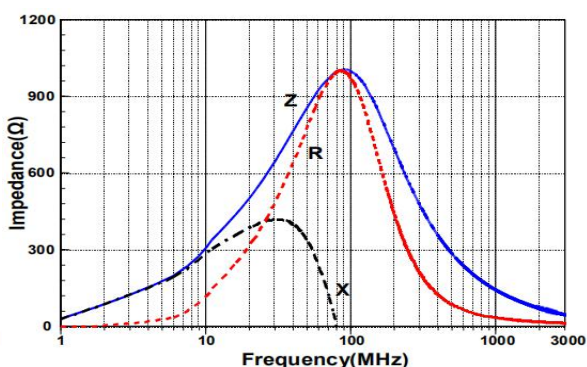
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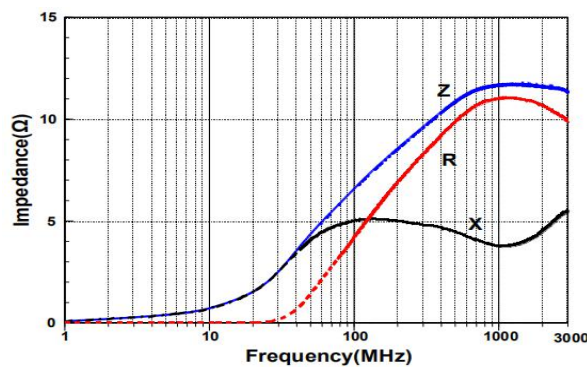
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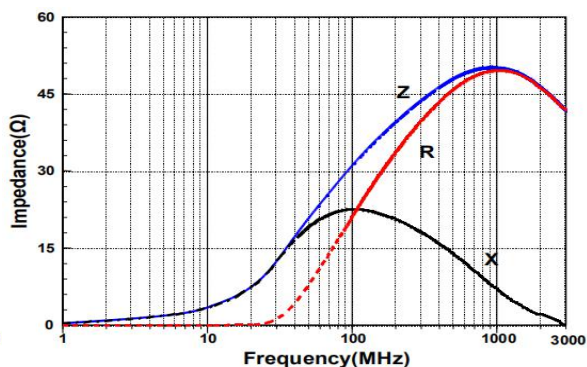
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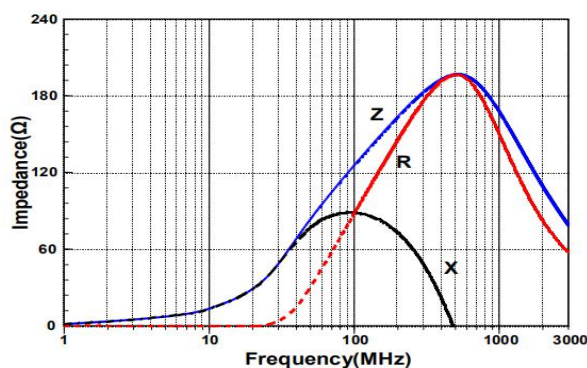
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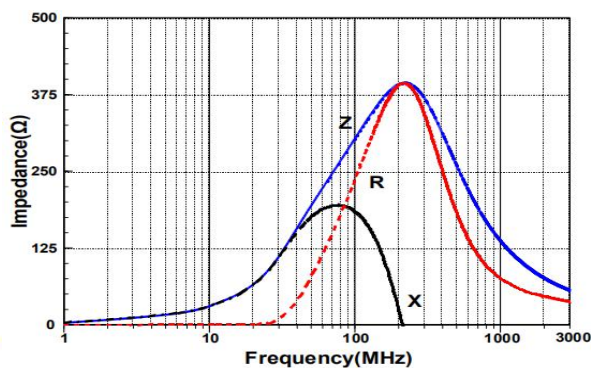
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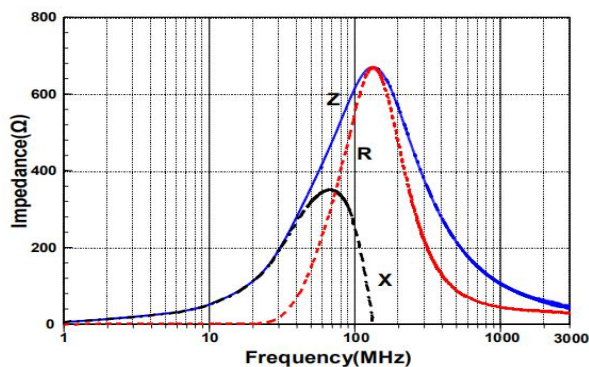
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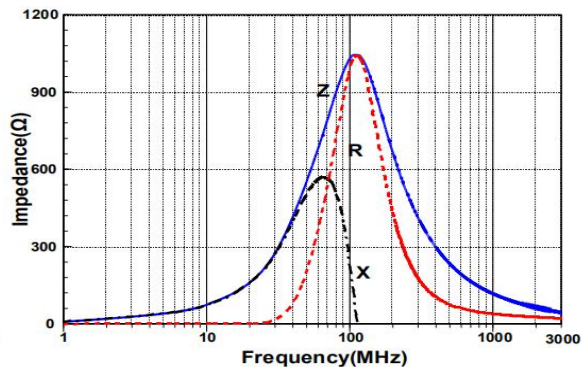
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

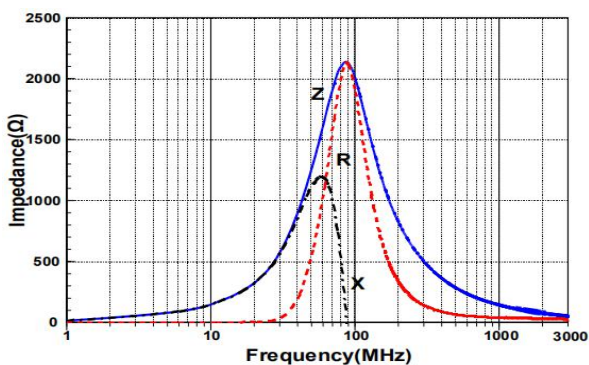
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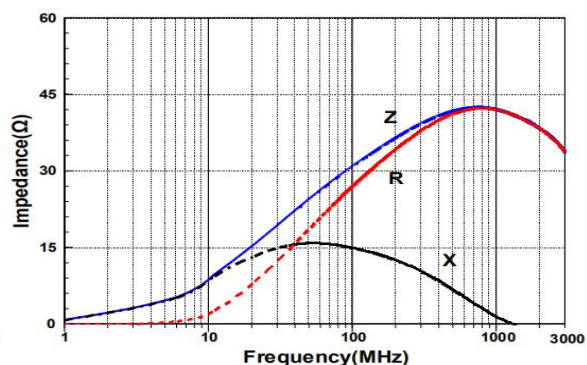
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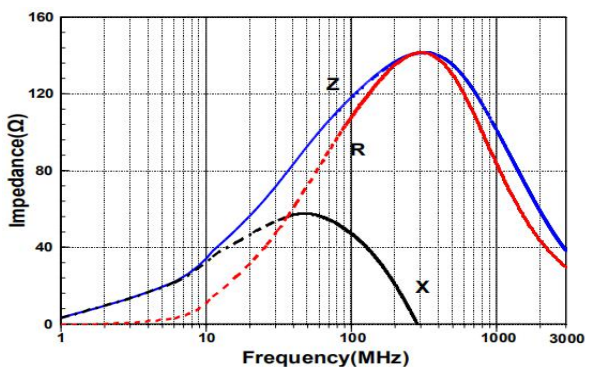
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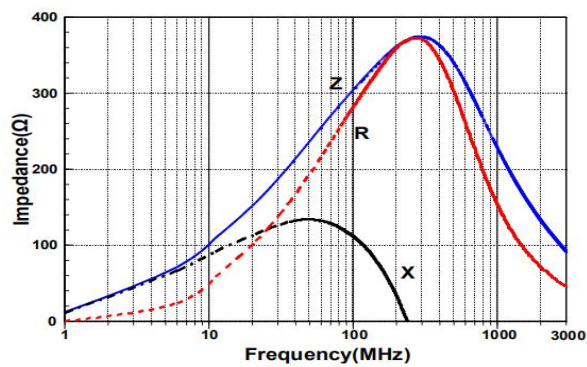
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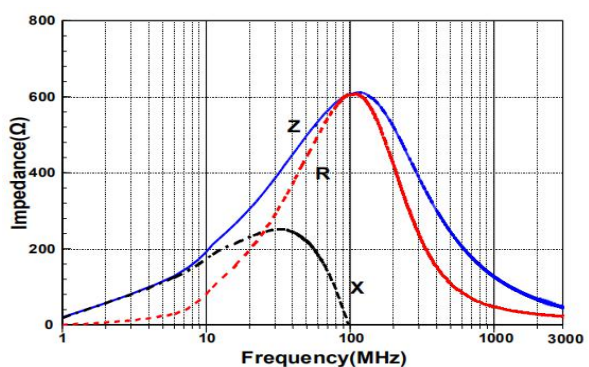
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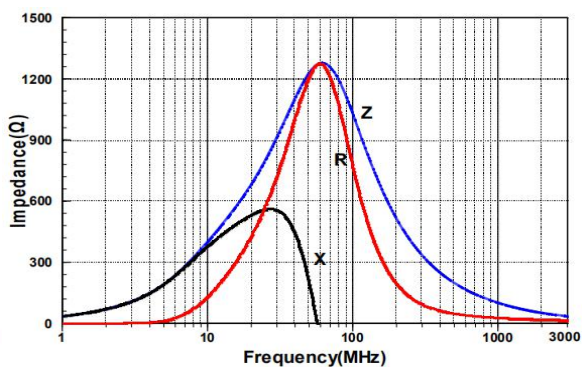
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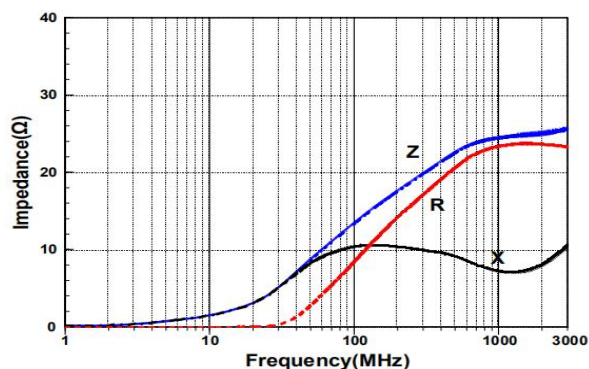
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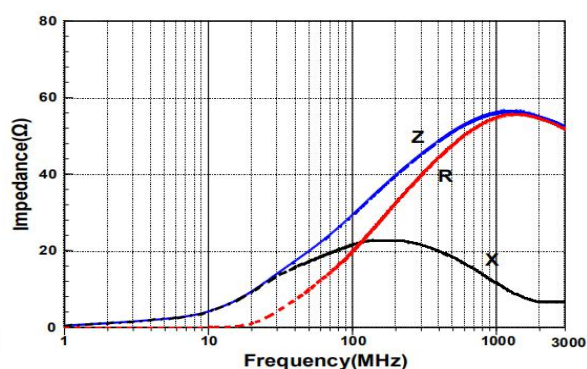
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

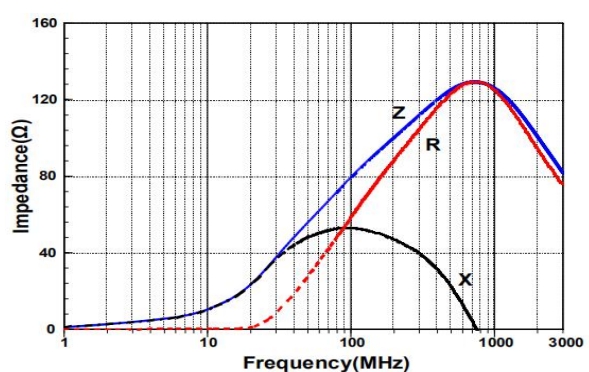
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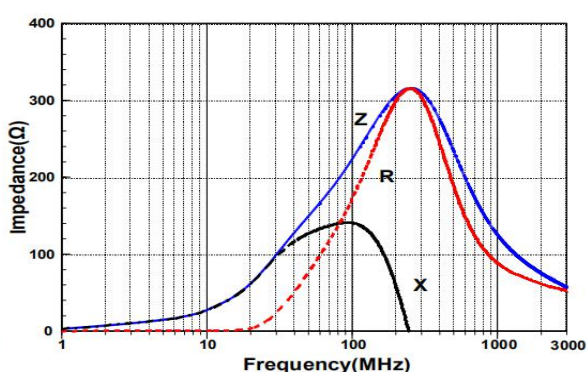
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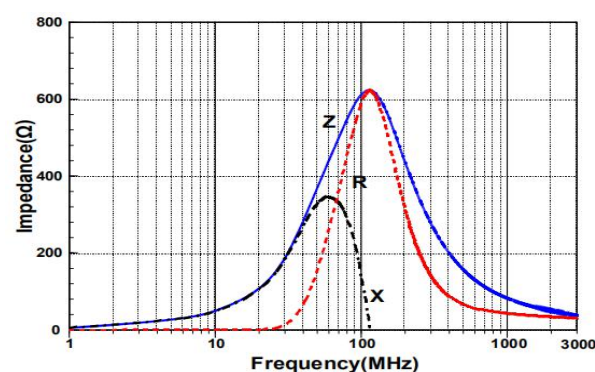
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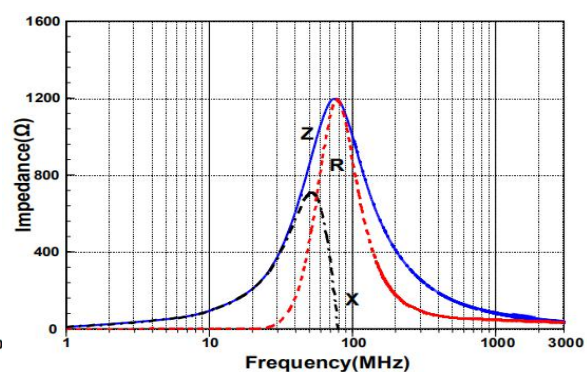
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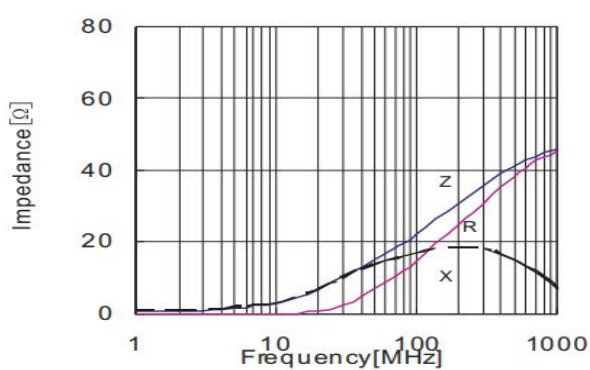
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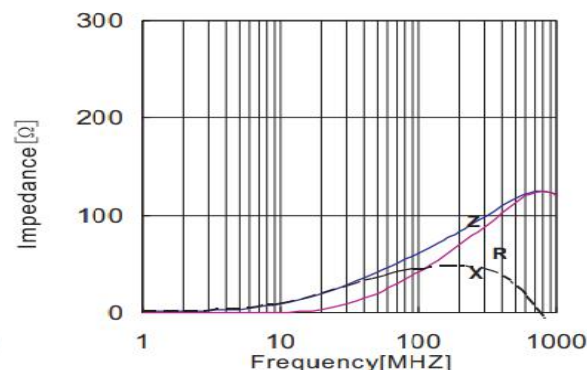
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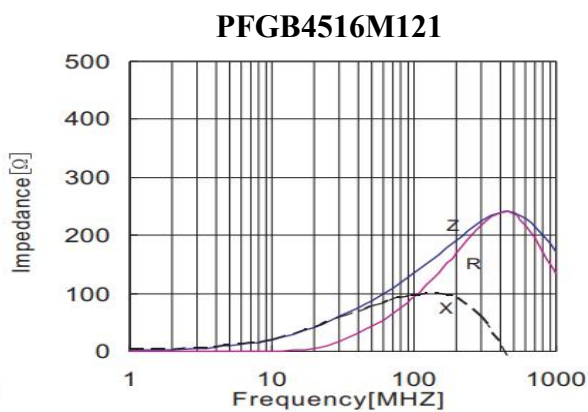
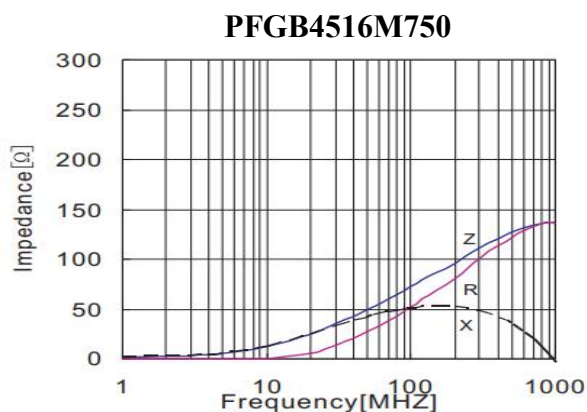
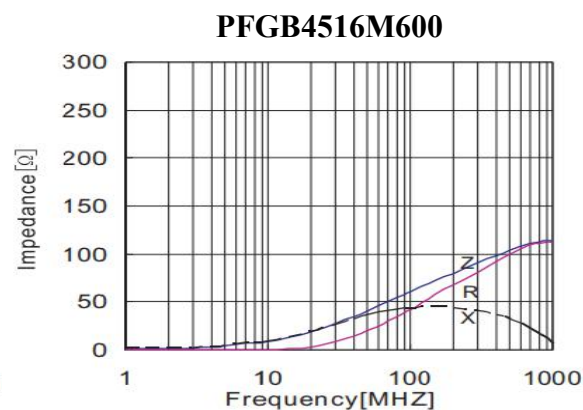
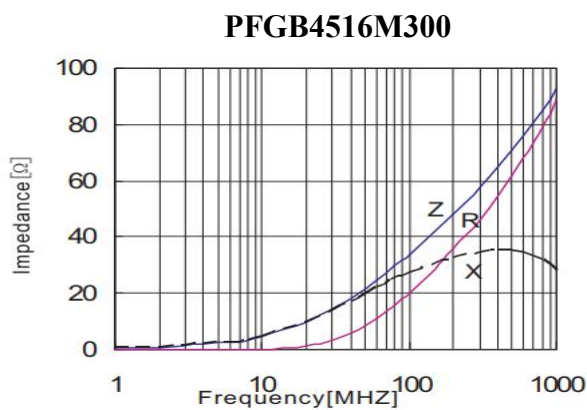
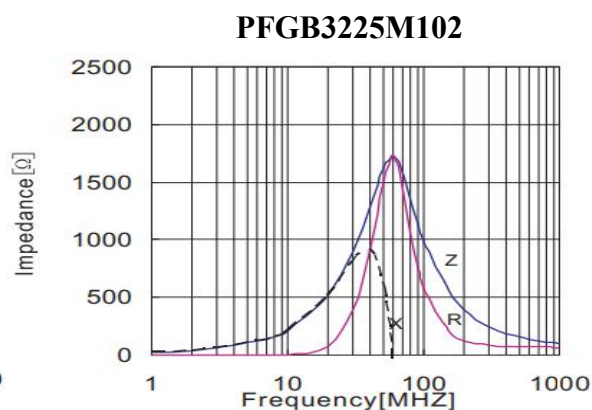
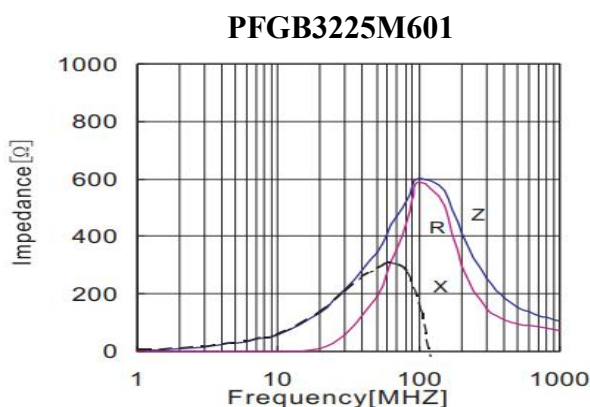
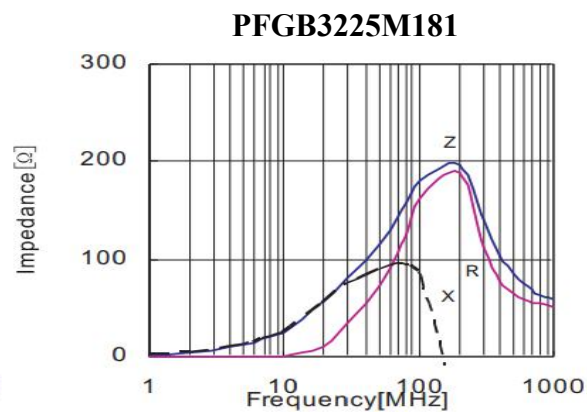
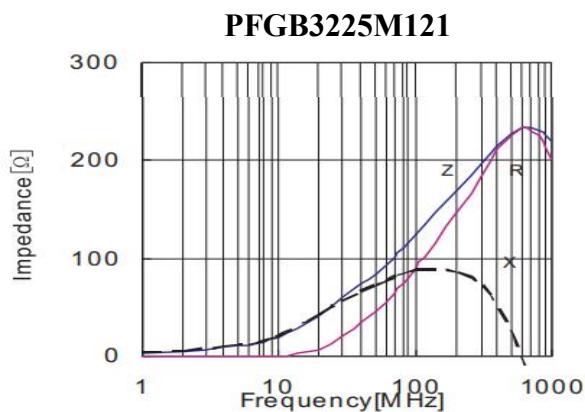


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TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

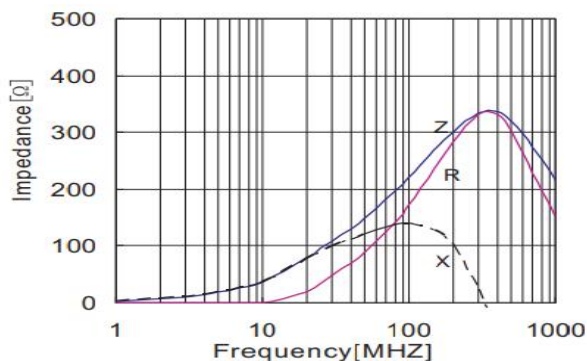
Z, R, X vs. FREQUENCY CHARACTERISTICS



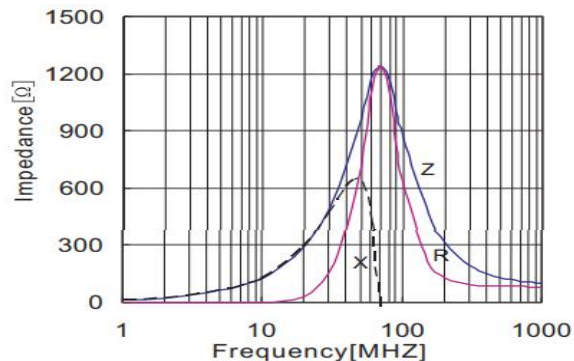
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

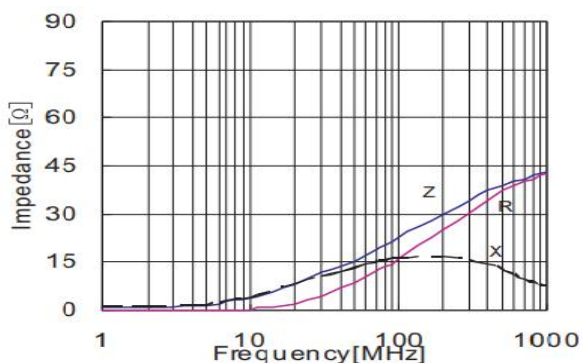
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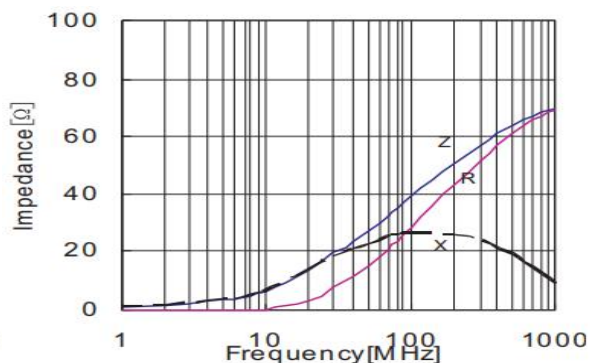
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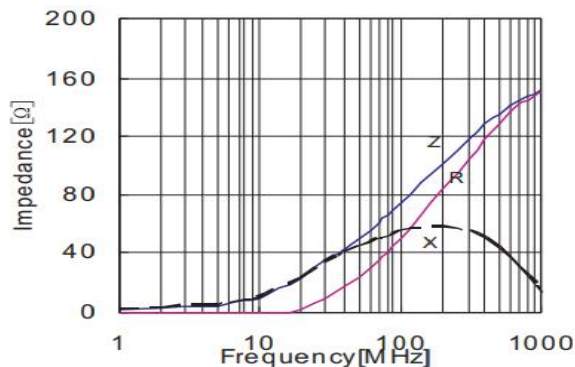
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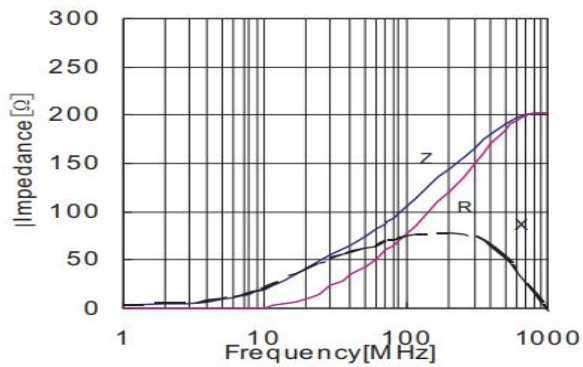
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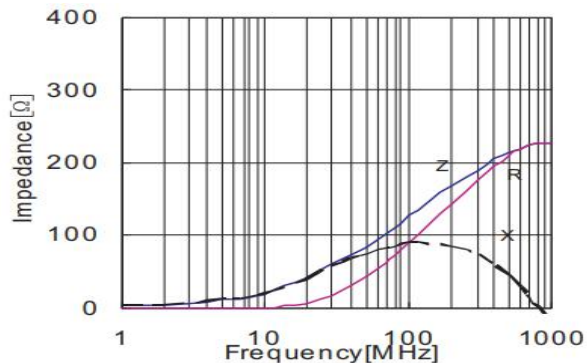
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