

MULTILAYER FERRITE CHIP BEAD FOR LARGE CURRENT

片式铁氧体大电流磁珠



PFPB SERIES



深圳高路瑞电子有限公司

Shenzhen Glory Electronics Co., Ltd.

Tel: 0755-2342 5572

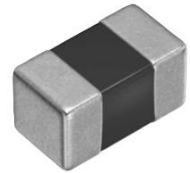
FAX: 158 8976 3756

Website: www.gloryelectr.com

E-mail: glory@gloryelectr.com

Multilayer Ferrite Chip Bead for Large Current-PFPB Series

片式铁氧体大电流磁珠-PFPB 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. Smaller DC resistance and larger rate current than PFGFB series.

◆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。相对于 PFGFB 系列具有更小的直流电阻和更大的额定电流。

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 Tin 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

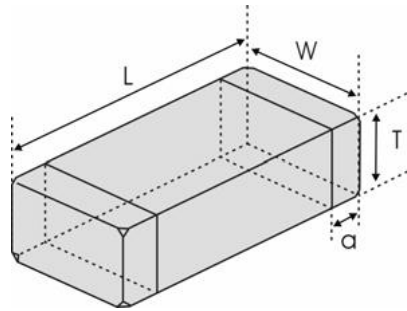
- ◆ 主机板，平板电脑，笔记型，桌上型电脑及其周边设备
- ◆ 数位相机，数位摄影机，液晶电视机，数位机上盒
- ◆ 行动电话，智能手机，个人导航设备
- ◆ 用于数据传输线、信号线。电源及回路部分的抗干扰

PRODUCT IDENTIFICATION 产品型号

PFPB 1608 M 601 T R15
 ① ② ③ ④ ⑤ ⑥

①Product Series Code 产品系列码	PFPB	Multilayer Ferrite Chip Bead for Large Current 片式铁氧体大电流磁珠
②Size Code 尺寸码	1608	长×宽 (L×W) (mm) 1.6×0.8
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
⑥Rated Current 额定电流值	2R0	2000mA
	R15	150mA

SHAPE AND DIMENSIONS 外观尺寸



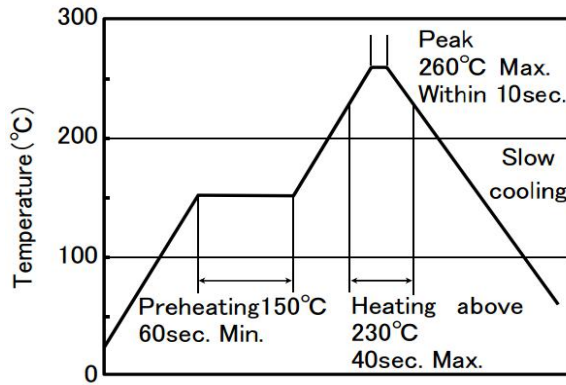
SIZE 尺寸	L 长 mm	W 宽 mm	T 厚 mm	a 银厚 mm
0402(01005)	0.4±0.02	0.2±0.02	0.2±0.02	0.08~0.14
0603(0201)	0.6±0.05	0.3±0.05	0.3±0.05	0.1~0.2
1005(0402)	1.0±0.15	0.5±0.15	0.5±0.15	0.15~0.35
1608(0603)	1.6±0.15	0.8±0.15	0.8±0.15	0.1~0.5
2012(0805)	2.0±0.2	1.25±0.2	0.85±0.2	0.2~0.8
3216(1206)	3.2±0.2	1.6±0.2	0.85±0.2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

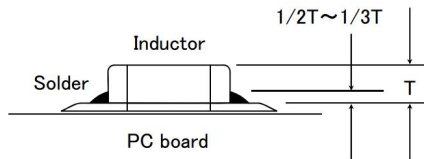
REFLOW SOLDERING 回流焊



- 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.

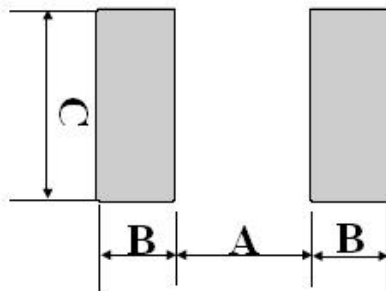
Caution:

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

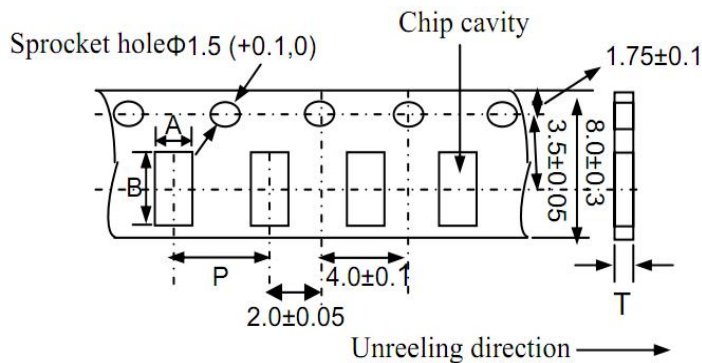


Dimension (mm)	A (mm)	B (mm)	C (mm)
0402	0.2	0.15~0.2	0.18~0.2
0603	0.2~0.3	0.2~0.3	0.3~0.35
1005	0.45~0.55	0.40~0.50	0.45~0.55
1608	0.6~0.8	0.6~0.8	0.6~0.8
2012	0.8~1.2	0.8~1.2	0.9~1.6
3216	1.8~2.5	1.0~1.5	1.2~2.0
3225	1.9~2.1	1.2~1.5	2.6~2.8
4516	2.8~3.0	1.5~1.8	1.2~2.0
4532	2.8~3.0	1.5~1.8	3.3~3.6

PACKING STANDARD 包装标准

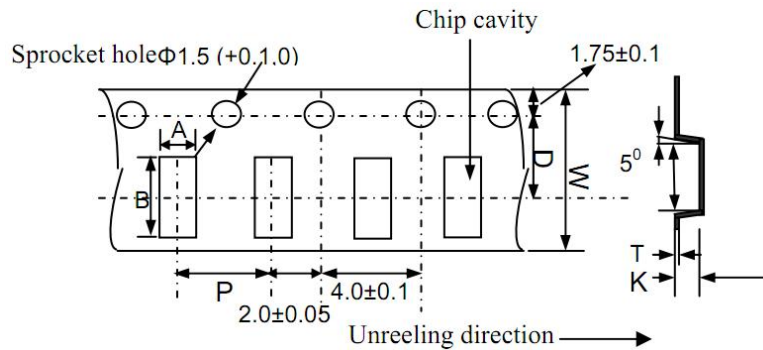
Taping Dimensions

◆ Paper tape (8mm wide)



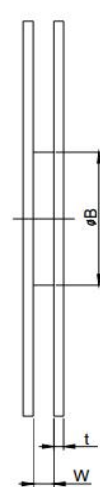
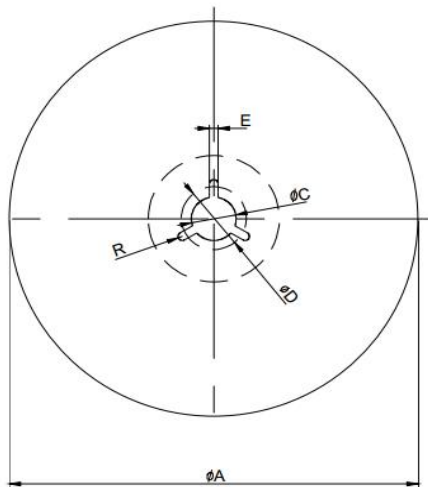
Type	Chip Thickness	A	B	P	T max.	Quantity (pcs/reel)
	(mm)					ø178mm Reel
PFPB0402	0.20	0.26	0.46	2	0.40	20000
PFPB0603	0.30	0.40	0.70	2	0.55	15000
PFPB1005	0.50	0.65	1.15	2	0.80	10000
PFPB1608	0.80	1.00	1.80	4	1.10	4000
PFPB2012	0.85	1.50	2.30	4	1.10	4000
PFPB3216	0.85	1.90	3.50	4	1.10	4000

Embossed Tape(8mm and 12mm wide)



Type	Chip Thickness	W	A	B	D	P	K max.	T max.	Quantity (pcs/reel)
	(mm)								ø178mm
PFPB3216	1.10	8	1.88	3.5	3.5	4	1.27	0.30	3000
PFPB3225	1.30	8	2.90	3.6	3.5	4	1.70	0.25	2000
PFPB4516	1.60	12	1.90	4.9	5.5	4	1.93	0.24	2000
PFPB4532	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
PFPB 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
PFPB0402M100T1R1	0~15	0.05	1100	0.2±0.02
PFPB0402M220TR75	22	0.15	750	0.2±0.02
PFPB0402M330TR55	33	0.20	550	0.2±0.02

PFPB 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
PFPB0603M600TR50	60	0.18	500	0.3±0.05
PFPB0603M800TR50	80	0.20	500	0.3±0.05
PFPB0603M121TR45	120	0.25	450	0.3±0.05
PFPB0603M241TR35	240	0.41	350	0.3±0.05
PFPB0603M601TR25	600	1.00	250	0.3±0.05
PFPB0603M102TR20	1000	1.40	200	0.3±0.05

PFPB 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
PFPB1005M100T1R8	0~15	0.02	1800	0.5±0.15
PFPB1005M700TR80	70	0.10	800	0.5±0.15
PFPB1005M121TR70	120	0.13	700	0.5±0.15
PFPB1005M221TR60	220	0.18	600	0.5±0.15
PFPB1005M601TR45	600	0.34	450	0.5±0.15
PFPB1005P700T1R2	70	0.10	1200	0.5±0.15
PFPB1005P121T1R0	120	0.12	1000	0.5±0.15
PFPB1005P221TR80	220	0.18	800	0.5±0.15
PFPB1005P601TR45	600	0.34	450	0.5±0.15

PFPB 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
PFPB1608M300T3R0	30	0.03	3000	0.8±0.15
PFPB1608M600T2R0	60	0.08	2000	0.8±0.15
PFPB1608M750T1R0	75	0.15	1000	0.8±0.15
PFPB1608M121T1R0	120	0.20	1000	0.8±0.15



PFPB1608M221T1R0	220	0.20	1000	0.8±0.15
PFPB1608M601TR05	600	0.35	500	0.8±0.15
PFPB1608P100T3R0	0~15	0.02	3000	0.8±0.15
PFPB1608P300T3R0	30	0.03	3000	0.8±0.15
PFPB1608P600T2R5	60	0.04	2500	0.8±0.15
PFPB1608P121T2R0	120	0.05	2000	0.8±0.15
PFPB1608P221T1R4	220	0.10	1400	0.8±0.15
PFPB1608P331T1R2	330	0.14	1200	0.8±0.15
PFPB1608P391T1R0	390	0.14	1000	0.8±0.15
PFPB1608P471T1R0	470	0.20	1000	0.8±0.15

SPECIFICATIONS 规格特性**PFPB2012(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
PFPB2012M390T4R0	39	0.02	4000	0.85±0.2
PFPB2012M800T3R0	80	0.04	3000	0.85±0.2
PFPB2012M121T2R5	120	0.06	2500	0.85±0.2
PFPB2012M221T1R5	220	0.08	1500	0.85±0.2
PFPB2012M301T1R5	300	0.12	1500	0.85±0.2
PFPB2012M471TR80	470	0.25	800	0.85±0.2
PFPB2012M601TR80	600	0.25	800	0.85±0.2
PFPB2012P300T3R0	30	0.02	3000	0.85±0.2
PFPB2012P300T4R0	30	0.015	4000	0.85±0.2
PFPB2012P600T3R0	60	0.025	3000	0.85±0.2
PFPB2012P121T2R5	120	0.04	2500	0.85±0.2
PFPB2012P221T2R0	220	0.07	2000	0.85±0.2
PFPB2012P301T1R5	300	0.10	1500	0.85±0.2
PFPB2012P421T1R0	420	0.20	1000	0.85±0.2
PFPB2012P601TR80	600	0.25	800	0.85±0.2

PFPB3216(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
PFPB3216M190T6R0	19	0.010	6000	0.85±0.2
PFPB3216M380T5R0	38	0.015	5000	0.85±0.2
PFPB3216M600T4R0	60	0.02	4000	0.85±0.2
PFPB3216M121T3R0	120	0.03	3000	0.85±0.2
PFPB3216M501T2R0	500	0.07	2000	0.85±0.2
PFPB3216M601T2R0	600	0.07	2000	0.85±0.2
PFPB3216P300T6R0	30	0.01	6000	0.85±0.2
PFPB3216P600T4R0	60	0.025	4000	0.85±0.2



PFPB3216P121T3R0	120	0.03	3000	0.85±0.2
PFPB3216P221T2R0	220	0.08	2000	0.85±0.2
PFPB3216P301T2R0	300	0.10	2000	0.85±0.2
PFPB3216P391T2R0	390	0.07	2000	0.85±0.2
PFPB3216P601T1R5	600	0.10	1500	0.85±0.2
PFPB3216P102TR50	1000	0.30	500	0.85±0.2

SPECIFICATIONS 规格特性**PFPB3225(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
PFPB3225M190T3R0	19	0.025	3000	1.3±0.2
PFPB3225M190T4R0	19	0.01	4000	1.3±0.2
PFPB3225M260T6R0	26	0.006	6000	1.3±0.2
PFPB3225M310T3R0	31	0.025	3000	1.3±0.2
PFPB3225M310T4R0	31	0.01	4000	1.3±0.2
PFPB3225M500T3R0	50	0.04	3000	1.3±0.2
PFPB3225M500T4R0	50	0.025	4000	1.3±0.2
PFPB3225M600T3R0	60	0.04	3000	1.3±0.2
PFPB3225M600T4R0	60	0.025	4000	1.3±0.2
PFPB3225M700T3R0	70	0.05	3000	1.3±0.2
PFPB3225M800T2R0	80	0.06	2000	1.3±0.2
PFPB3225M800T3R0	80	0.05	3000	1.3±0.2
PFPB3225M900T2R0	90	0.04	2000	1.3±0.2
PFPB3225M121T1R0	120	0.1	1000	1.3±0.2
PFPB3225M121T2R0	120	0.08	2000	1.3±0.2
PFPB3225M151T2R0	150	0.08	2000	1.3±0.2
PFPB3225M181T1R0	180	0.12	1000	1.3±0.2
PFPB3225M181T2R0	180	0.09	2000	1.3±0.2
PFPB3225M221T1R0	220	0.135	1000	1.3±0.2
PFPB3225M221T2R0	220	0.1	2000	1.3±0.2
PFPB3225M301T1R0	300	0.15	1000	1.3±0.2
PFPB3225M301T1R5	300	0.12	1500	1.3±0.2
PFPB3225M301T2R0	300	0.1	2000	1.3±0.2
PFPB3225M421T1R5	420	0.12	1500	1.3±0.2
PFPB3225M501T1R0	500	0.16	1000	1.3±0.2
PFPB3225M501T2R0	500	0.11	2000	1.3±0.2
PFPB3225M601T1R0	600	0.16	1000	1.3±0.2
PFPB3225M601T2R0	600	0.11	2000	1.3±0.2
PFPB3225M751T1R0	750	0.16	1000	1.3±0.2
PFPB3225M102T1R0	1000	0.17	1000	1.3±0.2

SPECIFICATIONS 规格特性
PFPB4516(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
PFPB4516M260T6R0	26	0.006	6000	1.6±0.2
PFPB4516M300T6R0	30	0.006	6000	1.6±0.2
PFPB4516M310T6R0	31	0.006	6000	1.6±0.2
PFPB4516M500T4R0	50	0.02	4000	1.6±0.2
PFPB4516M600T3R0	60	0.035	3000	1.6±0.2
PFPB4516M750T3R0	75	0.035	3000	1.6±0.2
PFPB4516M800T3R0	80	0.035	3000	1.6±0.2
PFPB4516M900T3R0	90	0.035	3000	1.6±0.2
PFPB4516M101T3R0	100	0.035	3000	1.6±0.2
PFPB4516M121T2R0	120	0.05	2000	1.6±0.2
PFPB4516M151T2R0	150	0.06	2000	1.6±0.2
PFPB4516M181T2R0	180	0.06	2000	1.6±0.2
PFPB4516M221T3R0	220	0.045	3000	1.6±0.2
PFPB4516M301T2R0	300	0.10	2000	1.6±0.2
PFPB4516M501T2R0	500	0.12	2000	1.6±0.2
PFPB4516M601T2R0	600	0.12	2000	1.6±0.2
PFPB4516M801T1R0	800	0.18	1000	1.6±0.2
PFPB4516M102T1R0	1000	0.18	1000	1.6±0.2

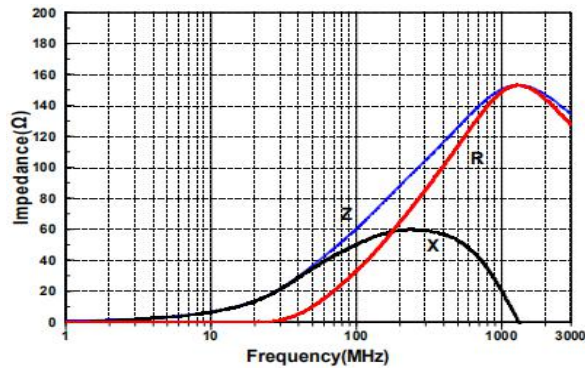
PFPB4532(1812) TYPE

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
PFPB4532M310T6R0	31	0.006	6000	1.5±0.2
PFPB4532M500T6R0	50	0.006	6000	1.5±0.2
PFPB4532M600T3R0	60	0.015	3000	1.5±0.2
PFPB4532M600T4R0	60	0.01	4000	1.5±0.2
PFPB4532M800T3R0	80	0.015	3000	1.5±0.2
PFPB4532M800T4R0	80	0.01	4000	1.5±0.2
PFPB4532M101T4R0	100	0.015	4000	1.5±0.2
PFPB4532M121T2R0	120	0.035	2000	1.5±0.2
PFPB4532M151T3R0	150	0.025	3000	1.5±0.2
PFPB4532M181T2R0	180	0.035	2000	1.5±0.2
PFPB4532M221T2R0	220	0.045	2000	1.5±0.2
PFPB4532M301T2R0	300	0.045	2000	1.5±0.2
PFPB4532M501T2R0	500	0.08	2000	1.5±0.2
PFPB4532M601T2R0	600	0.08	2000	1.5±0.2

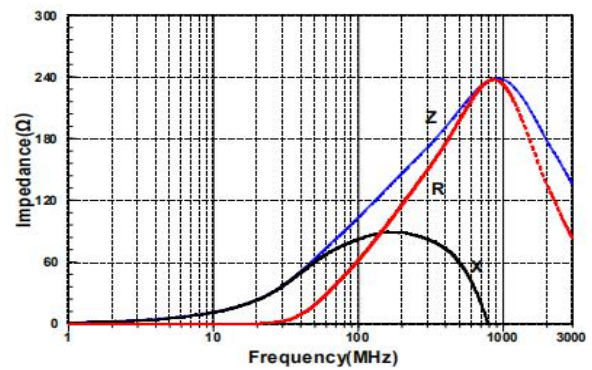
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

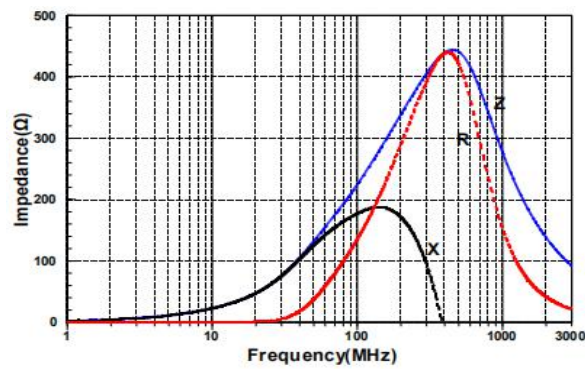
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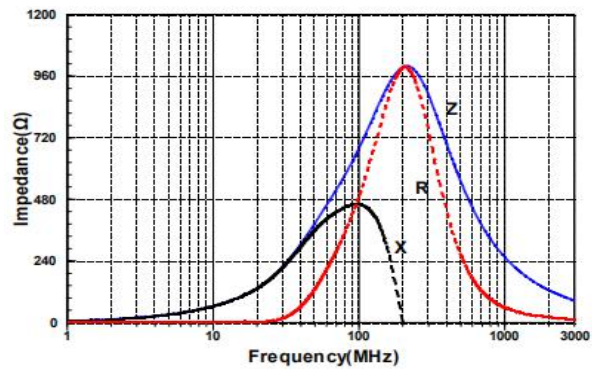
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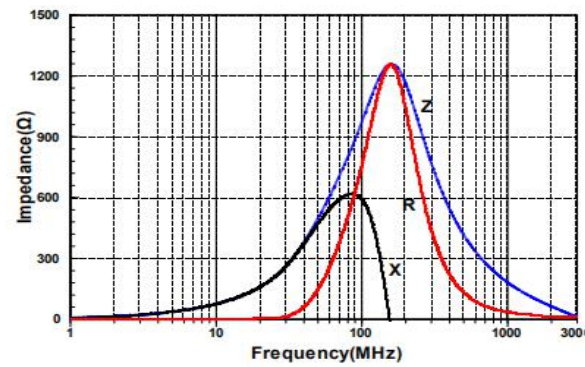
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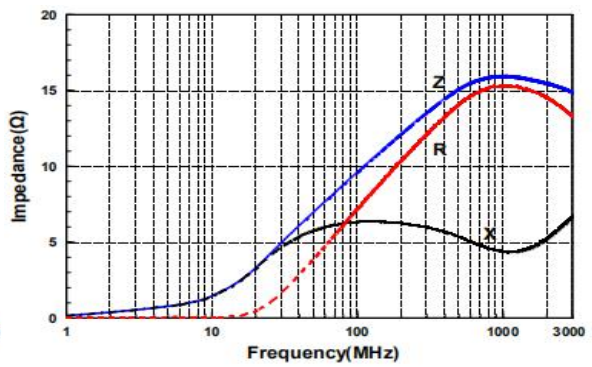
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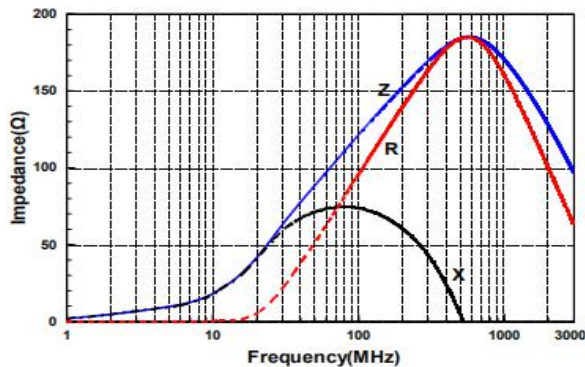
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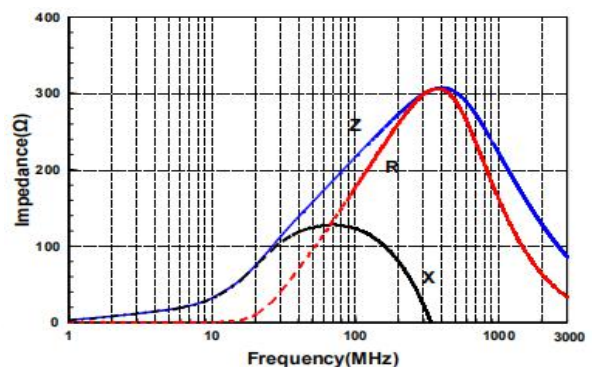
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PFPB1005M121TR70

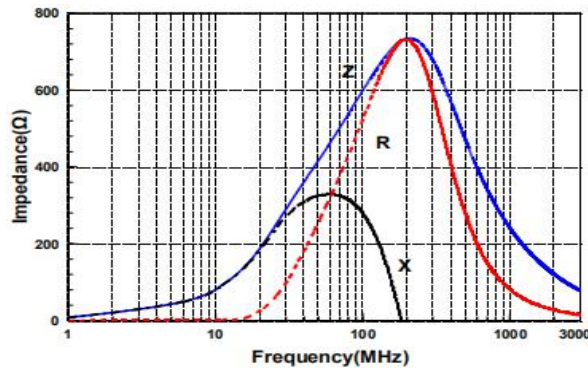
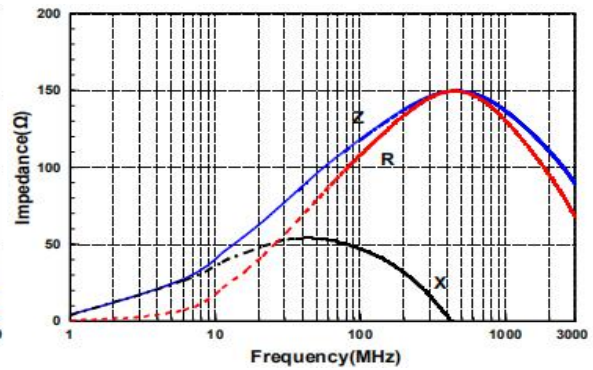
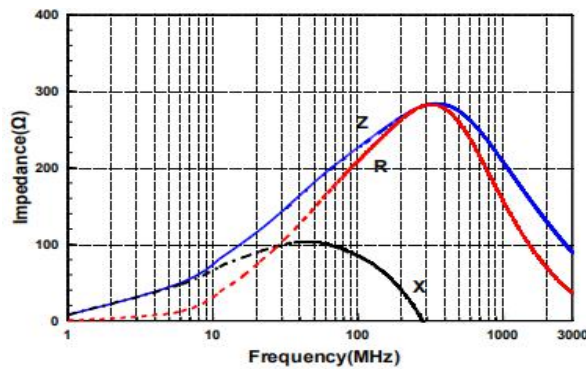
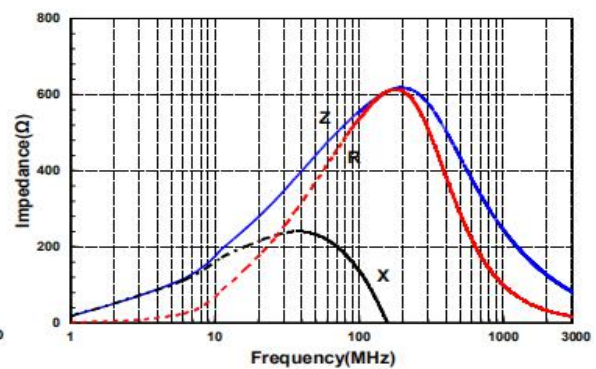
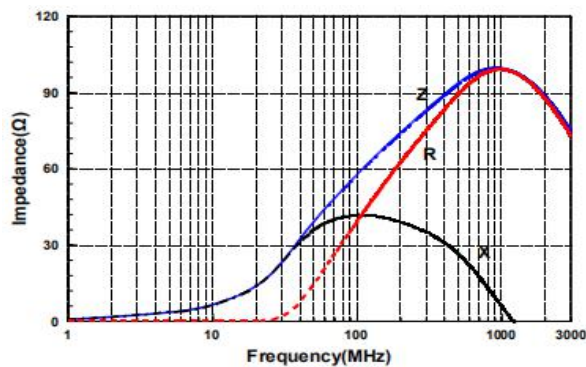
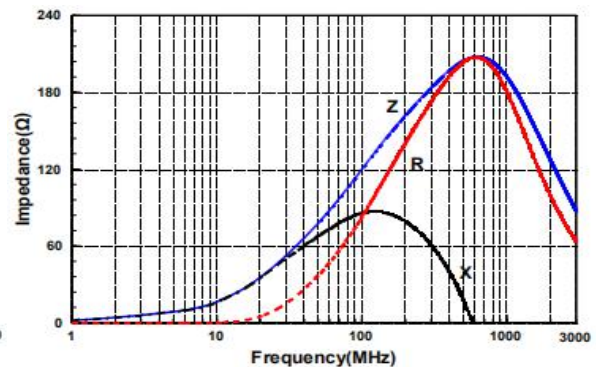
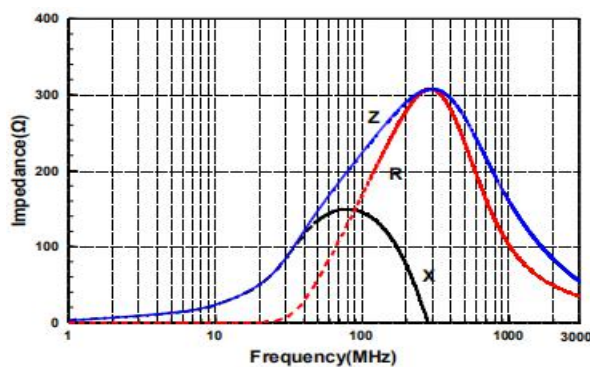
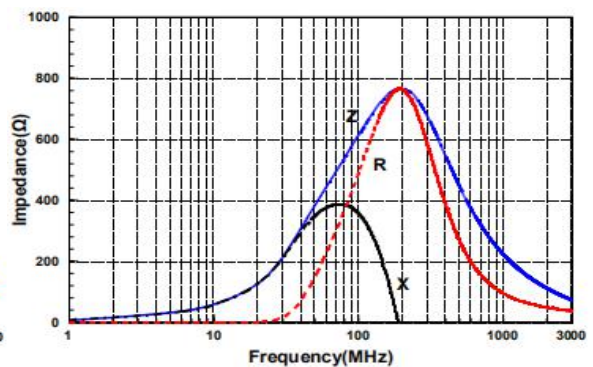


PFPB1005M221TR60



TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

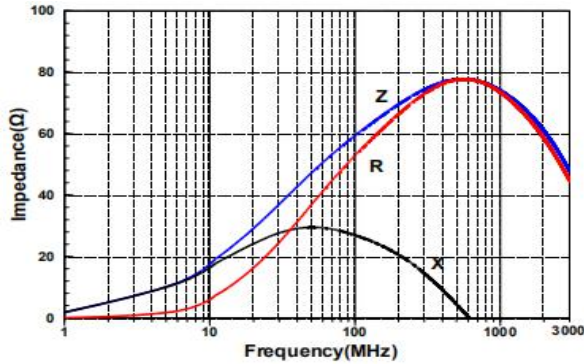
Z, R, X vs. FREQUENCY CHARACTERISTICS

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PFPB1005P121T1R0

PFPB1005P221TR80

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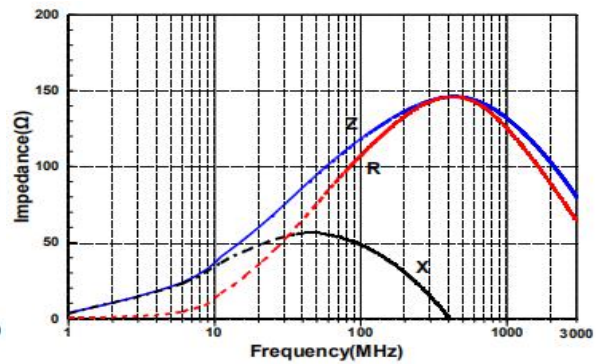
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

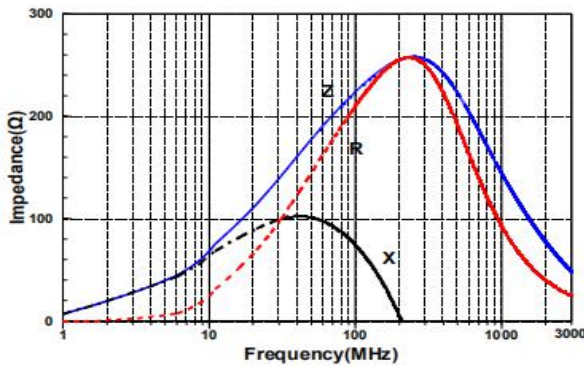
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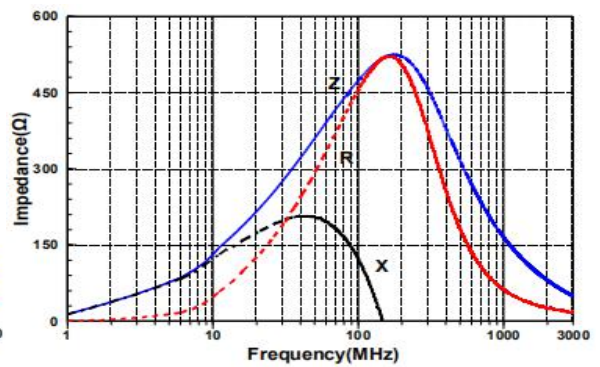
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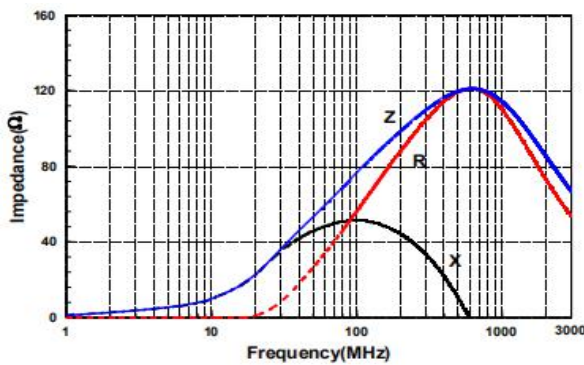
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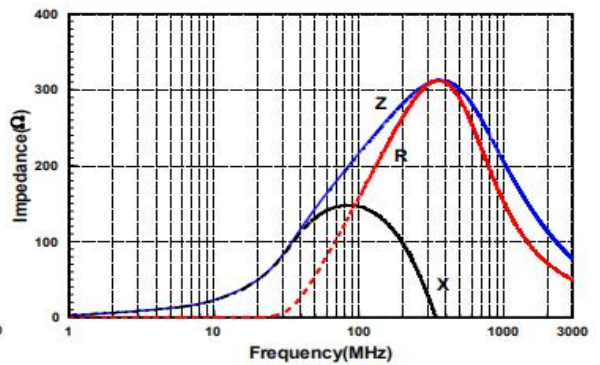
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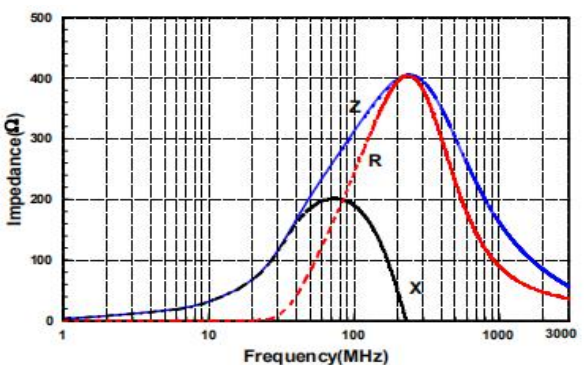
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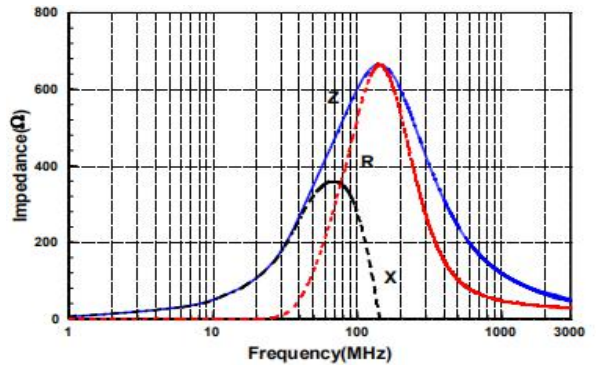
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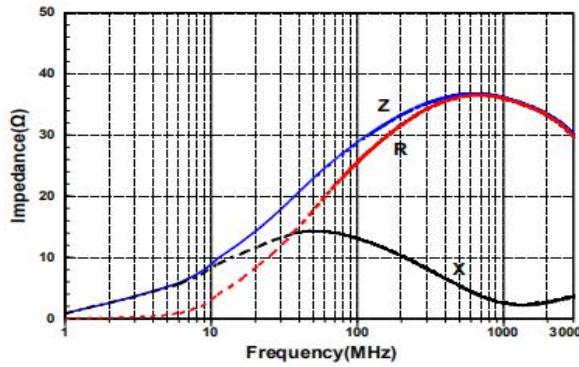
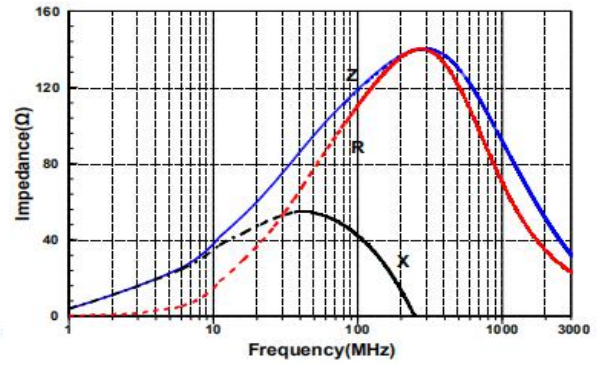
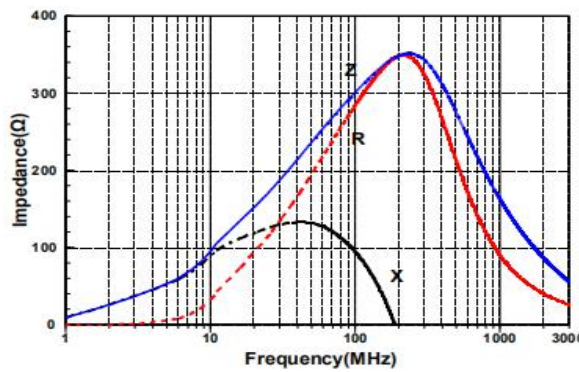
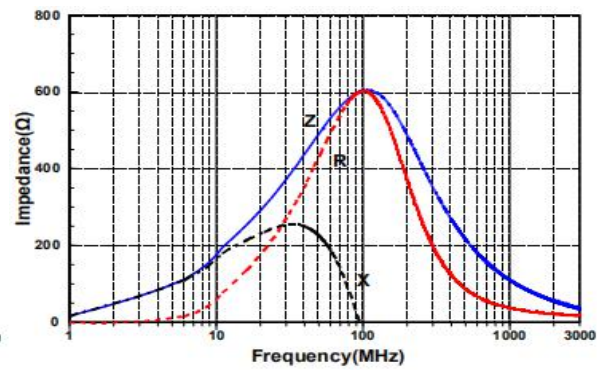
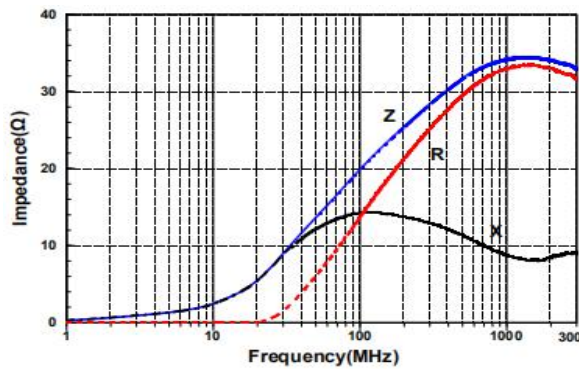
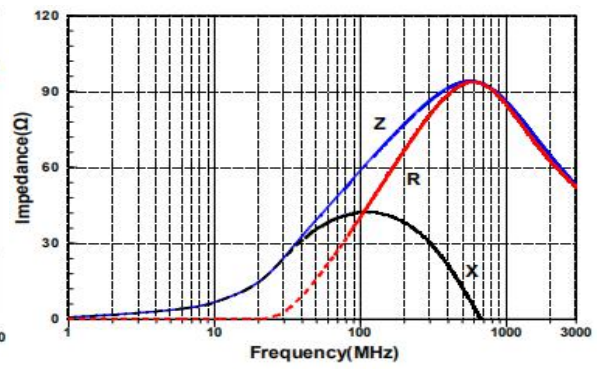
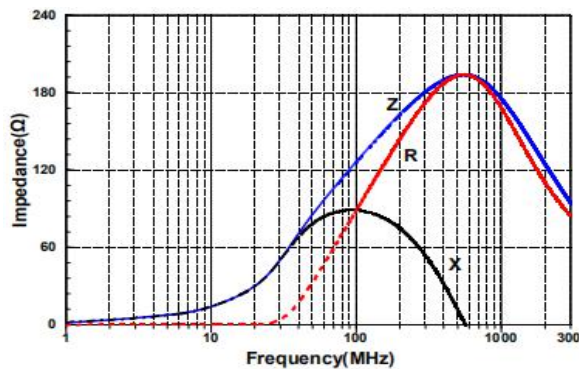
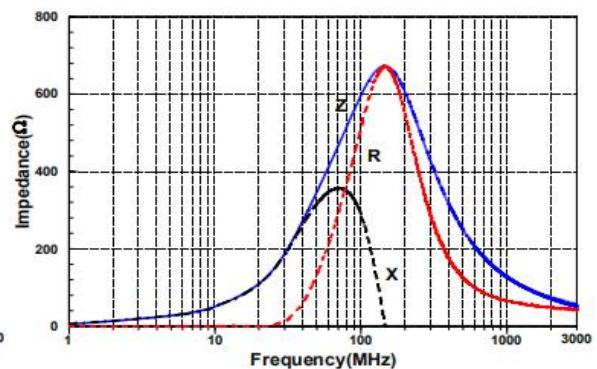


PFPB2012M601TR80



TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

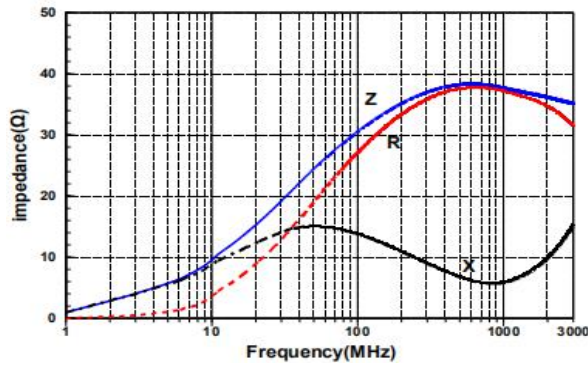
Z, R, X vs. FREQUENCY CHARACTERISTICS

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PFPB2012P121T2R5

PFPB2012P301T1R5

PFPB2012P601TR80

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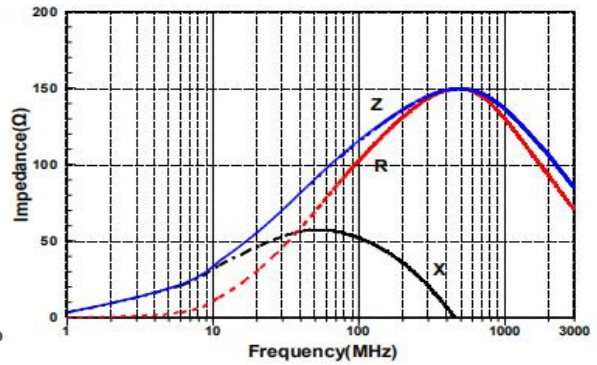
TYPICAL ELECTRICAL CHARACTERISTICS 典型电气特性

Z, R, X vs. FREQUENCY CHARACTERISTICS

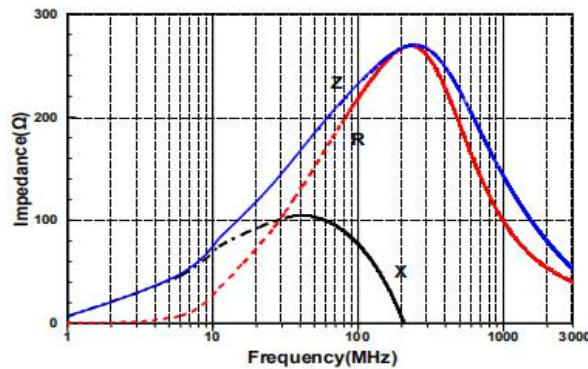
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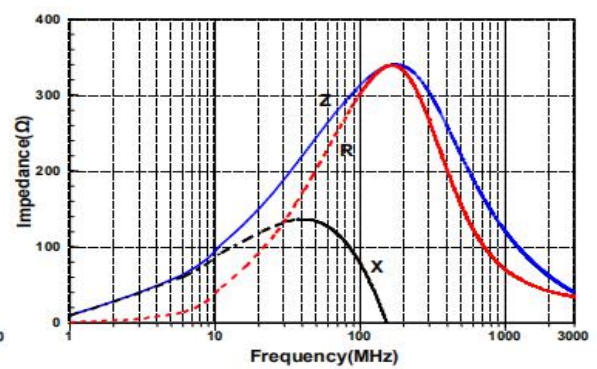
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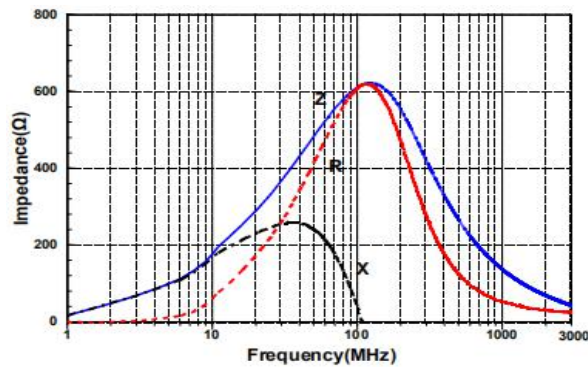
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PFPB3216P301T2R0



PFPB3216P601T1R5



PFPB3216P102TR50

