



产品编码 P/N	PSBHAA1608(0603)~3225(1210)	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E4991
产品系列 Series	贴片大电流磁珠	测试频率 TEST FREQUENCY	100MHZ/0.1V

客户名称

Customer

客户编码

Customer P/N

产品系列

Series

贴片大电流磁珠

SMD High Current Bead

产品编码

Supply P/N

: PSBHAA1608(0603)~3225(1210)

发版号

Version

A3.0

承认日期

Endorsement Date

2026-3-16

备注

Note

谱罗德电子科技（深圳）有限公司 PuLuoDe Electronic Technology (Shenzhen) Co. LTD	
制作 APPROVED	Ben
审查 CHECKED	Yuki
确认 PREPARED	Peter

客户承认

Customer Approval

客户签章



谱罗德电子科技（深圳）有限公司

PuLuoDe Electronic Technology (Shenzhen) Co., LTD

深圳市宝安区石岩三联工业区B栋311

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A3.0

修订记录

REVISION RECORD

RoHS

compliant

REACH

compliant

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Version	REVISION ITEM	BEFORE REVISION	AFTER REVISION	DATE
A3.0	First Version			2026-3-16

谱罗德

PROD

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产品特点

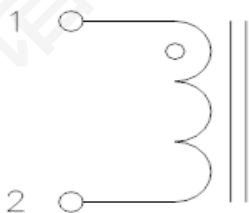
Features

- ❑ 非晶复合材料弥补磁珠在150KHZ~300MHZ频段滤波效果差的特性
Amorphous composite materials make up for the poor filtering effect of beads in the 150KHZ~300MHZ frequency band
- ❑ 采用绕线工艺，大大提升磁珠的耐电流特性
The winding process greatly improves the current of the beads
- ❑ 高饱和特性电流负载后阻抗衰减低，带来更好的滤波效果
The beads have good saturation characteristics, low impedance attenuation after load current and better filtering effect
- ❑ 全新非叠层工艺避免了磁珠内部断层失效风险，大大提升了磁珠的可靠性
The one-piece molding structure reduces the risk of internal broken beads and greatly improves the reliability of the beads.
- ❑ 超小超薄的结构减少PCB的占用面积
Takes up less PCB real estate and save more power



电路图

Schematic



- ◎ 磁珠内置一组线圈
Bead Contents one Sets of Coil

编码解释

Code interpretation

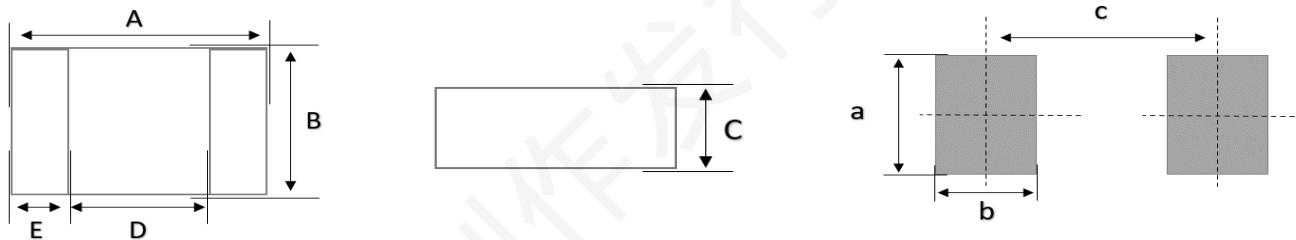
PSBHAA	160808	-	681	T	T130
<u>类别码</u>	<u>尺寸系列</u>		<u>系列码</u>	<u>公差</u>	<u>电流</u>
Category code	Dimension		Inductance	Tolerance	Current

- ◎ 规格参数基于环境温度25℃取得
All test Data is referenced to 25℃ ambient
- ◎ 电感工作环境温度：-40℃ ~ 125℃
Operating temperature range -40 °C to +125 °C
- ◎ 加载额定电流) 会使电感温度上升大约 40℃ (电感初始温度+上升温度=电感最终温度)
Typical rated current would cause an approximately ΔT of 40℃
- ◎ 务必考虑最终的产品设计，元器件布局，线路板走线，以及使用环境过程中，电感最终温度不得超过125℃
The operating temperature of inductance do not exceed 125℃
- ◎ 使用电感时，请查阅第最后一页注意事项
The announcements is on last page



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封装尺寸
Dimension (mm)



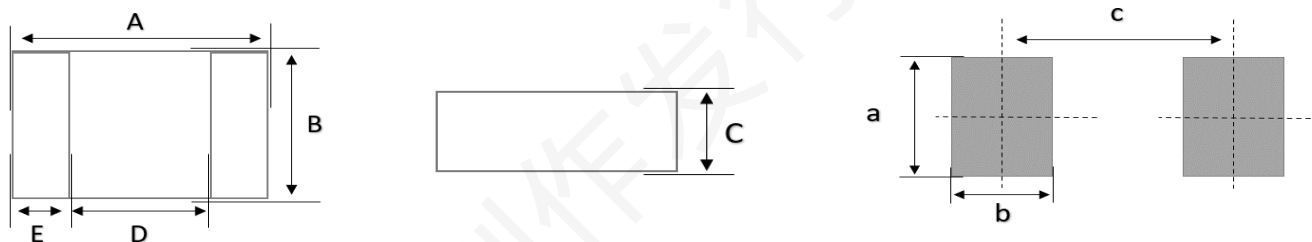
系列	封装尺寸 Dimension					焊盘尺寸 Land Pattern		
Series	A	B	C	D	E	a	b	c
160808(0603)	1.6±0.25	0.8±0.25	0.8 Max.	0.6 Ref	0.50±0.25	0.9	0.6	1.1
201210 (0805)	2.0±0.25	1.2±0.25	1.0 Max.	0.6 Ref	0.7±0.25	1.3	0.8	1.3

1608 (0603) ~2012 (0805) Series

产品编码 P/N	@ 25 °C Ambient Temperture			
	阻抗	公差	DCR	额定电流 (IRMS)
	Impedance	Tolerance	mΩ	A
	Ω @100MHZ	±	Max	ΔT≈40℃
PSBHAA160808H-121T050	120	25%	40	5
PSBHAA160808H-151T052	150	25%	24	5.2
PSBHAA160808H-251T040	250	25%	35	4
PSBHAA160808H-301T042	300	25%	45	4.2
PSBHAA160808H-501T025	500	25%	63	2.5
PSBHAA160808H-601T025	600	25%	63	2.5
PSBHAA160808H-801T024	800	25%	130	2.4
PSBHAA160808H-102T023	1000	25%	115	2.3
PSBHAA201210H-068T100	68	25%	13	10
PSBHAA201210H-151T070	150	25%	22	7
PSBHAA201210H-251T060	250	25%	16	6
PSBHAA201210H-471T070	470	25%	20	7
PSBHAA201210H-601T053	600	25%	31	5.3
PSBHAA201210H-681T040	680	25%	55	4
PSBHAA201210-551T031	550	25%	85	3.1

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封装尺寸
Dimension (mm)



系列	封装尺寸 Dimension					焊盘尺寸 Land Pattern		
Series	A	B	C	D	E	a	b	c
252012 (1008)	2.5±0.25	2.0±0.25	1.2Max.	0.8 Ref	0.85±0.25	2.1	0.95	1.65
322512 (1210)	3.2±0.25	2.5±0.25	1.2MAX	1.1 Ref	1.05±0.25	2.8	1.2	2

2520 (1008) ~3225 (1210) Series

产品编码 P/N	@ 25 °C Ambient Temperture			
	阻抗 Impedance	公差 Tolerance	DCR mΩ	额定电流 (IRMS) A
	Ω @100MHZ	±	Max	ΔT≈40℃
PSBHAA252012H-600T140	60	25%	4.8	14
PSBHAA252012H-900T090	90	25%	11	9
PSBHAA252012H-181T090	180	25%	10	9
PSBHAA252012H-421T080	420	25%	12	8
PSBHAA252012H-681T075	680	25%	13	7.5
PSBHAA252012-421T065	420	25%	18	6.5
PSBHAA252012-301T058	300	25%	22	5.8
PSBHAA252012-221T036	220	25%	60	3.6
PSBHAA322512H-600T120	60	25%	7	12
PSBHAA322512H-181T110	180	25%	8	11
PSBHAA322512H-471T080	470	25%	15	8
PSBHAA322512H-501T090	500	25%	14	9
PSBHAA322512H-601T090	600	35%	14	9
PSBHAA322512H-681T064	680	25%	22	6.4
PSBHAA322512-421T085	420	25%	12	8.5
PSBHAA322512-551T080	550	25%	19	8
PSBHAA322512-301T070	300	25%	15	7
PSBHAA322512-221T047	220	25%	44	4.7



阻抗曲线

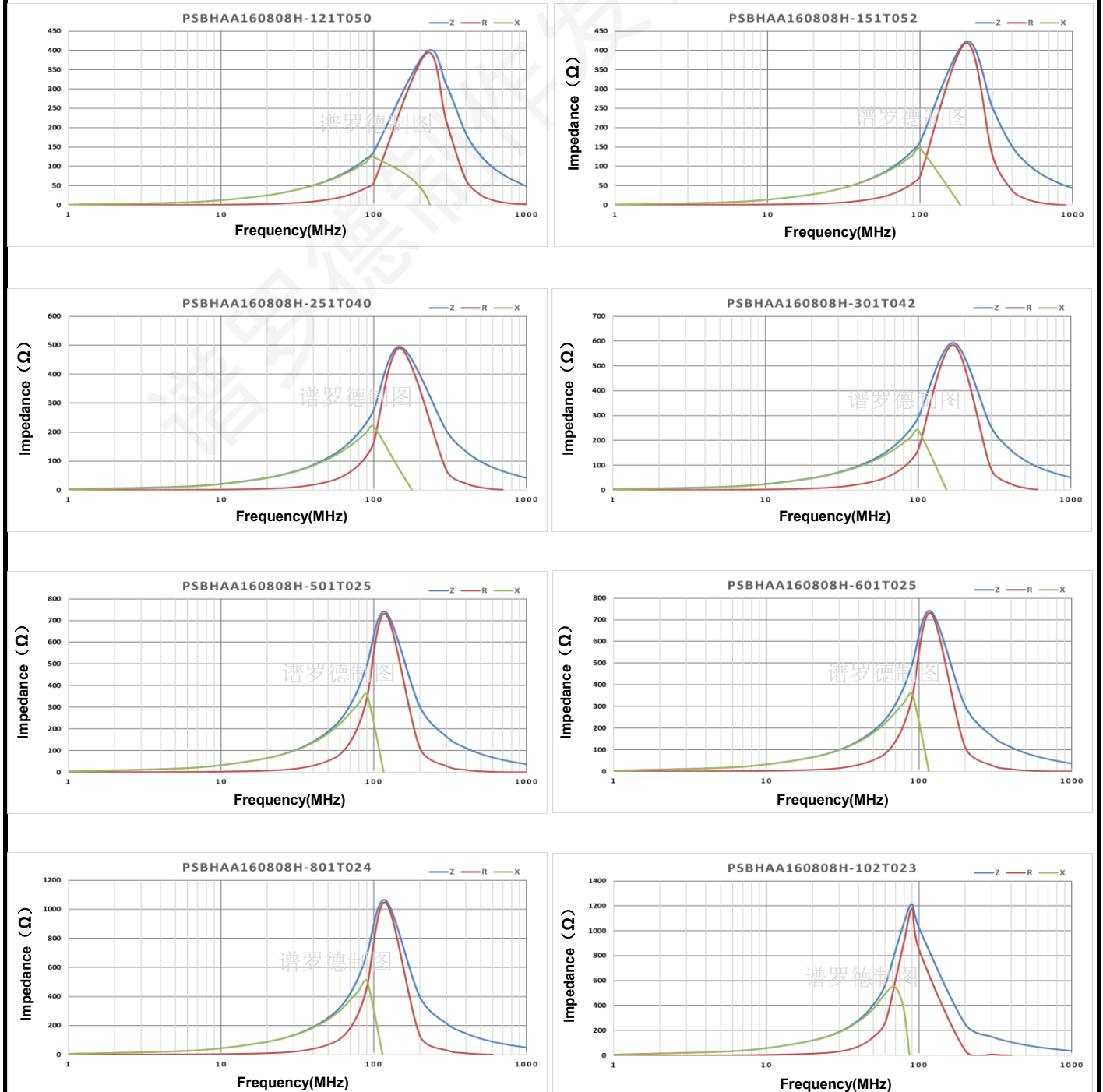
Impedance Curve



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阻抗曲线

impedance curve



阻抗曲线

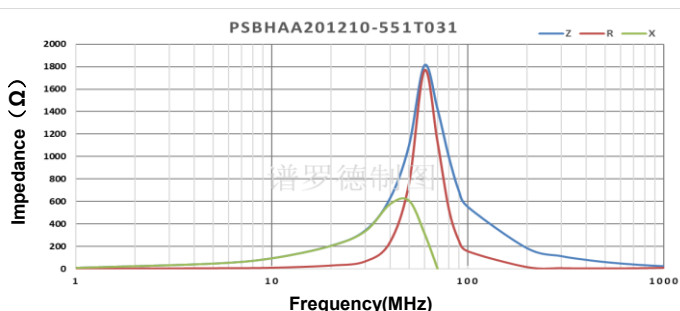
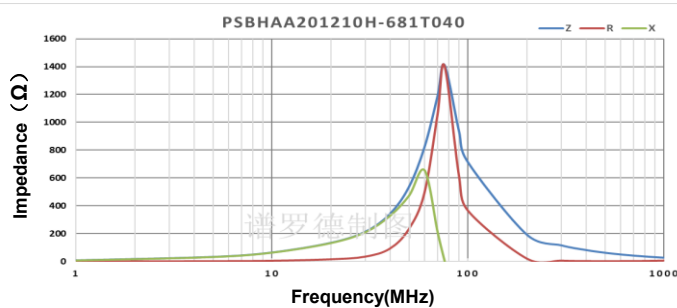
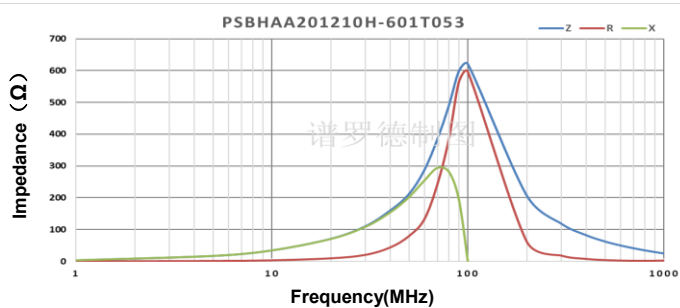
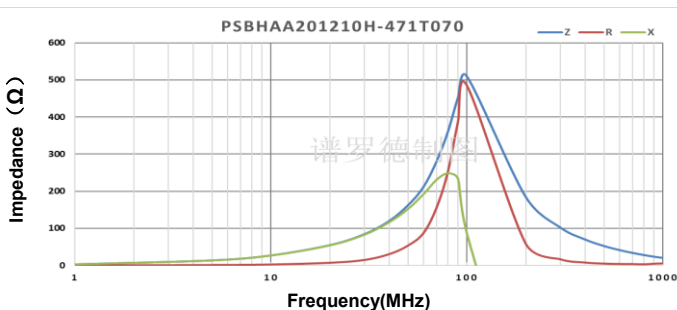
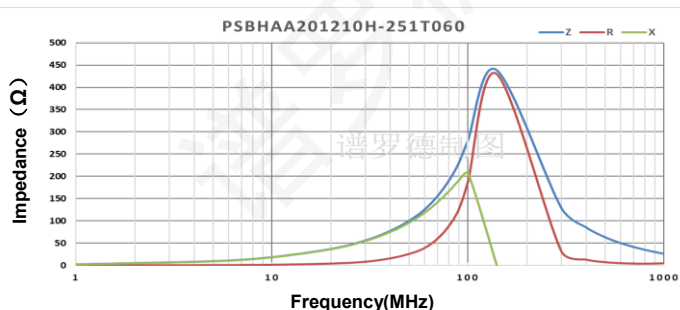
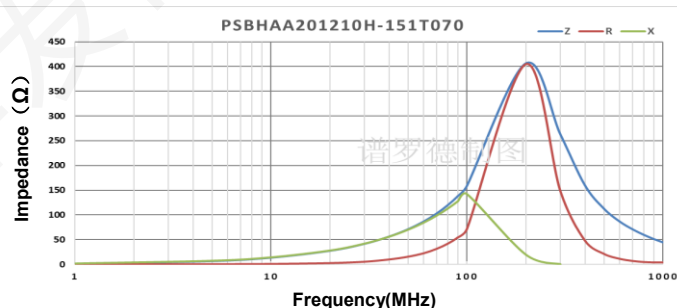
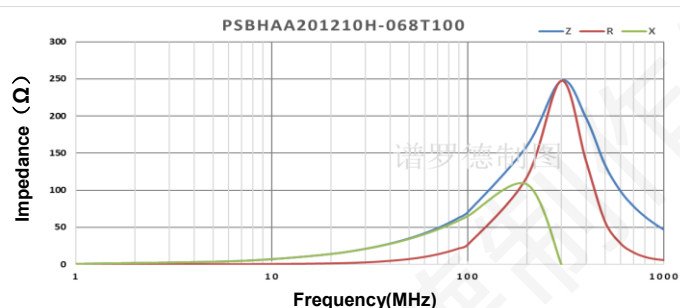
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阻抗曲线

impedance curve



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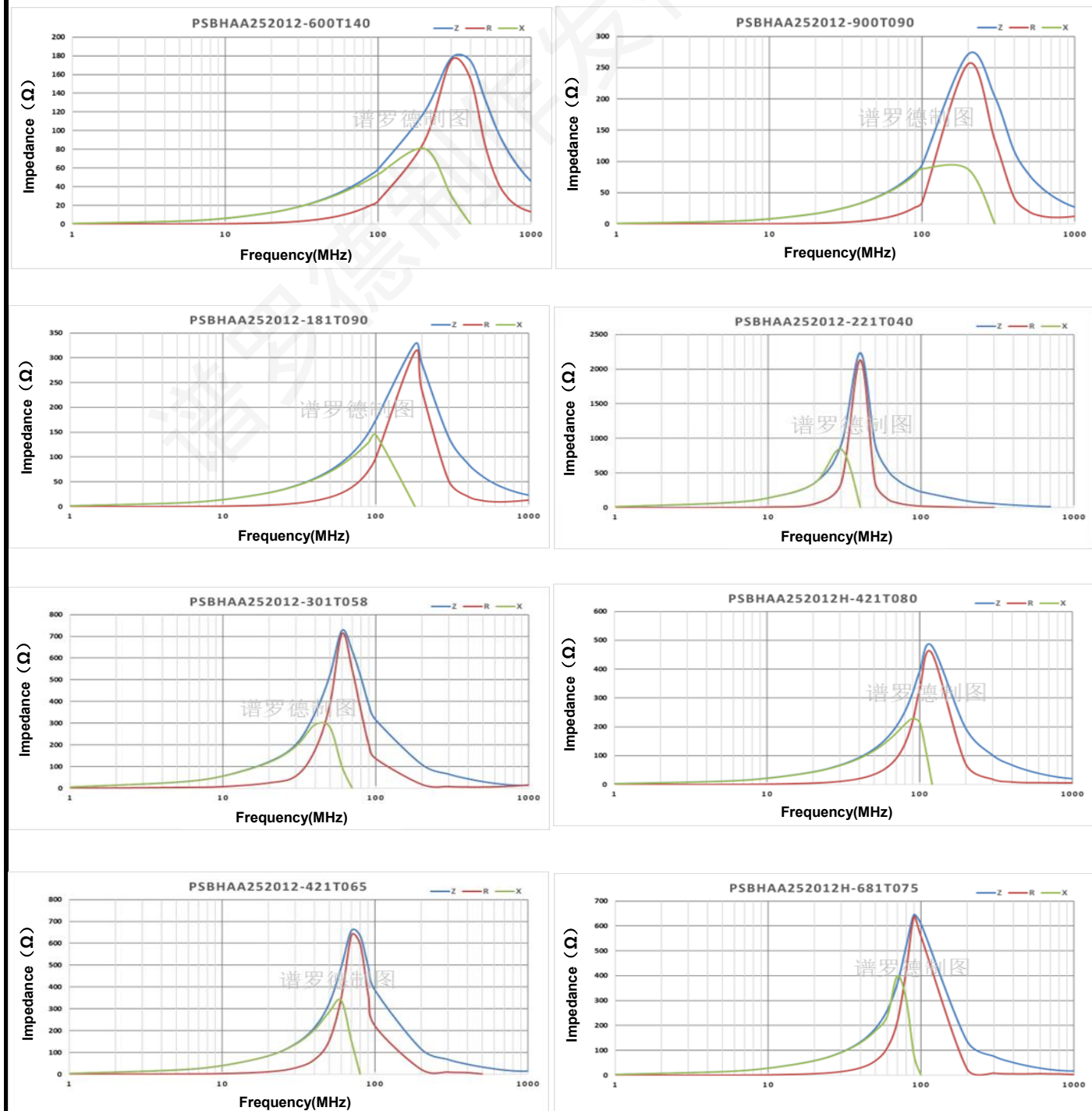
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impedance curve



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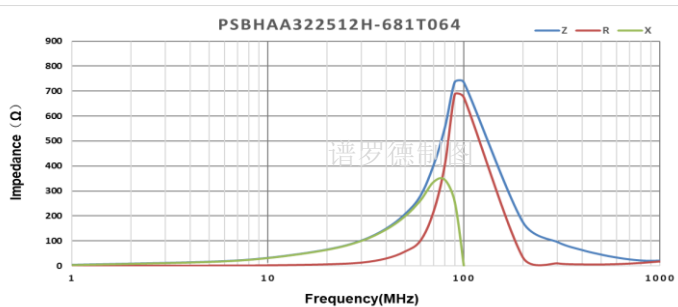
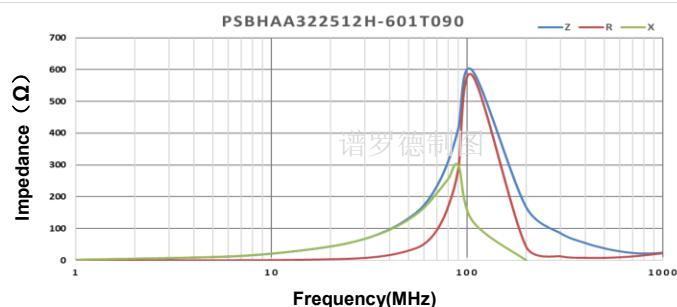
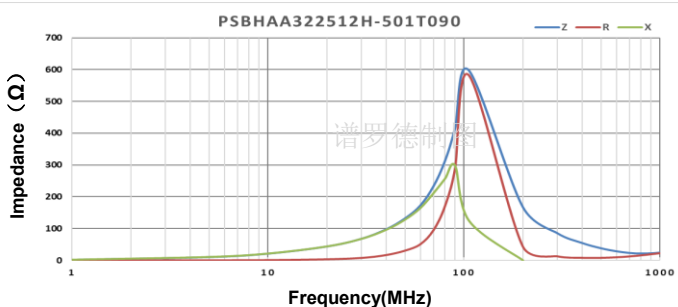
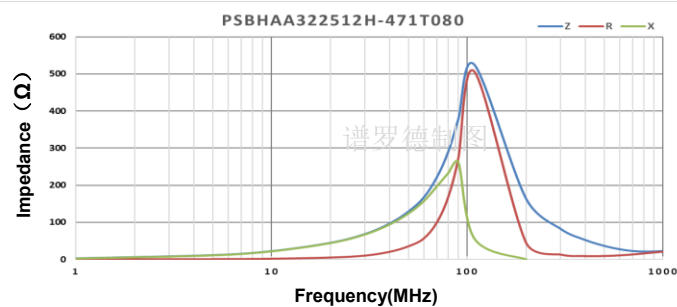
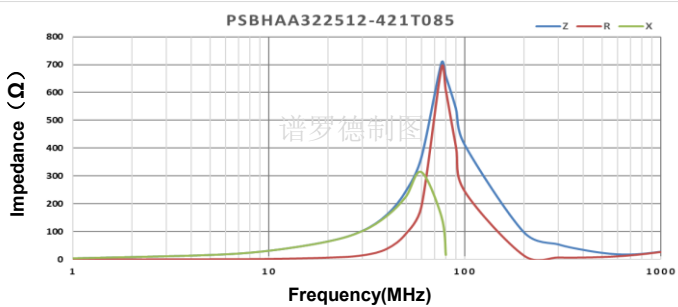
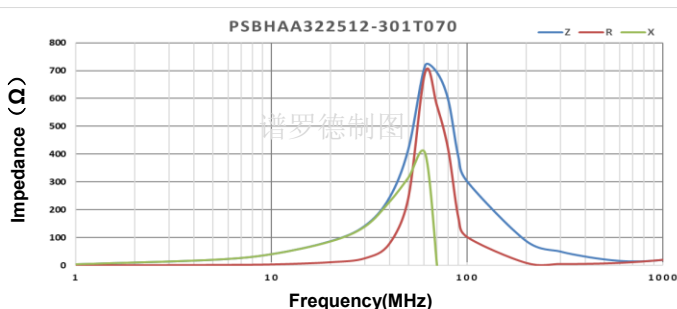
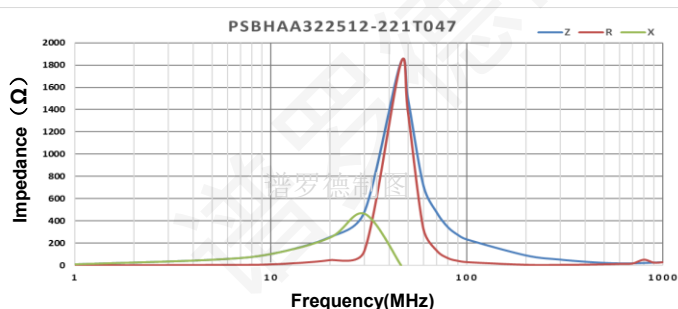
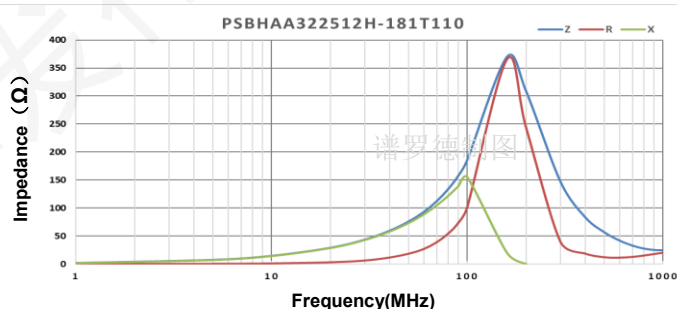
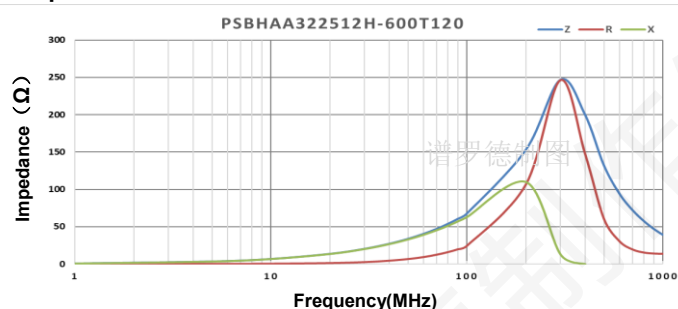
Impedance Curve



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阻抗曲线

impedance curve



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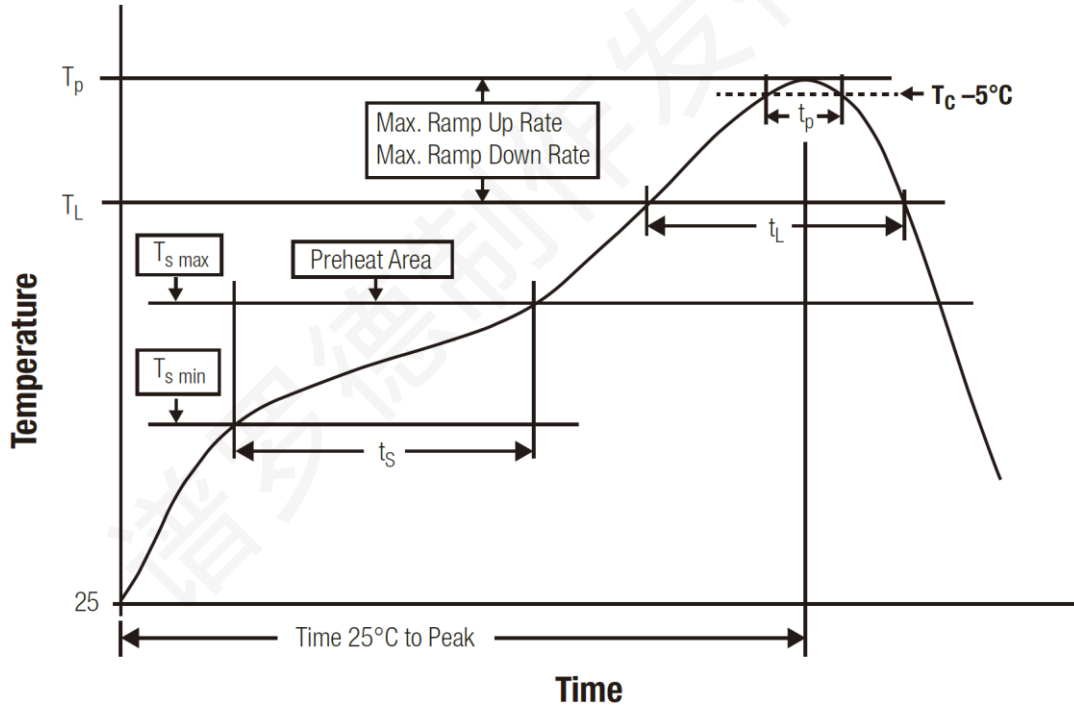
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焊接温度（推荐）

Recommended Classification Wave Soldering Profile



Classification Reflow Soldering Profile:

Profile Feature	Item	Value
Preheat Temperature Min	Ts min	150 °C
Preheat Temperature Max	Ts max	200 °C
Preheat Time ts from Ts min to Ts max	ts	60 - 120 seconds
Ramp-up Rate (TL to TP)		3 °C/ second max.
Liquidous Temperature	TL	217 °C
Time tL maintained above TL	tL	60 - 150 seconds
Peak package body temperature	Tp	Tp ≤ Tc, see Table below
Time within 5°C of actual peak temperature	t p	20 - 30 seconds
Ramp-down Rate (TP to TL)		6 °C/ second max.
Time 25°C to peak temperature		8 minutes max.

Package Classification Reflow Temperature (Tc):

Properties	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly Package Thickness < 1.6 mm	260°C	260°C	260°C
PB-Free Assembly Package Thickness 1.6 mm - 2.5 mm	260°C	250°C	245°C
PB-Free Assembly Package Thickness > 2.5 mm	250°C	245°C	245°C

* 参考标准: IPC/ JEDEC J-STD-020E refer standard to: IPC/ JEDEC J-STD-020E



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机械可靠性测试

Mechanical Reliability

实验名称 ITEM	试验要求 Specification & Requirement	试验方法 Method Used
可焊性实验 Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof: Preheating: 180 ±10℃ 90 seconds Soldering: 255 ±5℃ for 3 ±1 sec
机械冲击 Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s ² (100G) shock Attitude upon a rubber block method shock testing machinem, 3 tests.
振动实验 Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle Vibration time: 2 hours

老化测试

Aging Reliability

实验名称 ITEM	试验要求 Specification & Requirement	试验方法 Method Used
冷热冲击 Thermal Shock	Inductance change within ± 5% Without mechanical damage	-40℃, (30 mins) -> room temp. (5 mins) -> 125℃, (30 mins) -> room temp. (5 mins) 50 cycles
耐热性 Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85℃ ambient Duration: 500 hrs
耐湿性 Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60℃ ambient Humidity: 90~95% Duration: 500 hrs
低温存储实验 Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -40 ±2 °C for total 500 +4/-0 hours
高温存储实验 High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. 125 ±2 °C for total 500 +4/-0 hours

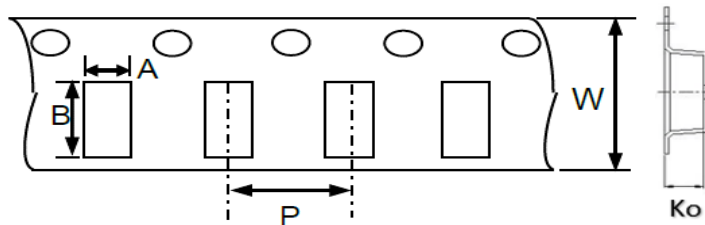
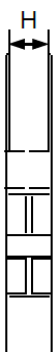
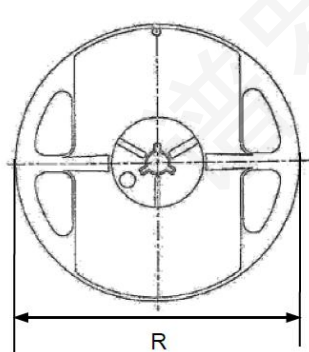


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载带卷盘尺寸 : (mm)

Packing Dimension

系列/Series	R	H	A	B	P	W	Ko	最小包装/MPQ
160808 (0603)	178	13	2.35 Ref	2.8 Ref	4	8	0.95 Ref	3000
201210 (0805)	178	13	1.5 Ref	2.35 Ref	4	8	1.15 Ref	3000
252010 (1008)	178	13	2.35 Ref	2.8 Ref	4	8	1.15 Ref	3000
252012 (1008)	178	13	2.35 Ref	2.8 Ref	4	8	1.35 Ref	3000
322510 (1210)	178	13	2.8 Ref	3.5 Ref	4	8	1.15 Ref	3000
322510 (1210)	178	13	2.8 Ref	3.5 Ref	4	8	1.35 Ref	3000

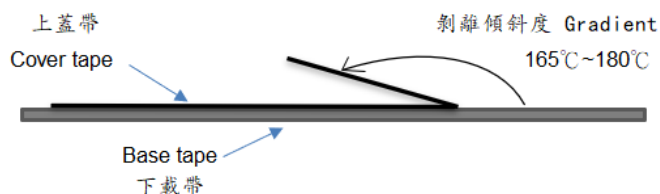


载带剥离力:

Typical Pulling Force

对上盖带施加力: 20g~120g内即可与下载带剥离

Tape Peeling off force: 20g~120g



© 实际出货过程, 依据客户需求状况的不同, 包装数量会有变化, 最终的包装数量请参照实际出货包装

In the actual delivery process, the package quantity will change according to the different customer demands. Please refer to the actual shipment quantity for the final package quantity





注意事项

使用本产品时，请注意以下事项

- ◎ 产品保存期限为12个月，保存条件：温度5~40℃，湿度10~75%RH以内，超过保存期限可能会使元器件电极发生氧化，存储标准可参照：IEC_61760-2-2021
This components storage life is 12 months, Storage Temperature: TEMP.5~40℃; RH10%~75%. Please use this components within the warranty period. refer standard to: IEC_61760-2-2021
- ◎ 请勿在极端环境下使用和保存（高盐，强酸，强碱，强辐射等）。
Do not use this component in special environments, such as high salt content, strong acid, strong alkali, strong corrosion and other special environments.
- ◎ 元器件焊接前,请进行预热,预热与焊接温度之间温差建议控制在150℃以内;焊接标准参考：EN61760-1:2006
Please preheat the product before welding; it is recommended to control the preheating temperature and welding temperature within 150℃. refer standard to: EN61760-1:2006
- ◎ 元器件焊接后需重新拆卸焊接修正时，请遵循规格书规定的条件范围；过高的加热温度以及反复的拆卸可能会导致元器件失效。
When repairing this component, the temperature used for disassembly should not exceed the datasheet limit and do not disassemble it frequently to prevent damage to the component.
- ◎ 请勿用清洗剂、丙酮等腐蚀性液体接触该元器件，这可能会侵蚀元器件本体以至于失效。
Do not use acetone or other corrosive liquids to contact this component or it will cause it to fail.
- ◎ 元器件焊接到线路板后，请注意不可因线路板整体变形或局部变形而施加给电感剩余应力，这可能会导致元器件脱落、破损失效。
When this component is soldered to the circuit board, you need to pay attention to the stress applied to it by the PCB, which may cause it to fall off or damaged fail.
- ◎ 元器件通电后温度会随电流的增大而上升，设计时请务必考虑留有余量。
Self heating (Rated Current or Irms) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- ◎ 过高的静电会损坏该元器件，请注意静电防护。
Too high static electricity will cause permanent damage to the product, please pay attention to electrostatic protection.
- ◎ 本元器件作为磁性产品，设计时请务必考虑周边元器件与本产品可能产生的耦合效应影响。
This magnetic component needs to be considered for coupling effects in the application.
- ◎ 谱罗德并不能完全掌握或熟悉客户的特定应用以及要求，贵司有责任和义务验证此元器件以及元器件规格书中的描述是否满足于贵司的设计要求；需要指出是：即使按照现有的技术标准操作，该元器件依然有几率在典型寿命结束前发生故障，谱罗德强烈建议贵司对于该元器件在一些典型的严苛应用中，例如安规产品，工业产品、医疗产品、车载产品、航空/航天等产品应用，对于该元器件可能存在的失效情况做适当的冗余设计，以此避免该元器件在失效时造成严重后果；特别提醒：对于特定的应用对象谱罗德强烈要求贵司同谱罗德取得书面的许可，否则谱罗德不予承担元器件失效带来的任何责任，特定对象包括且不限于：车用，航空航天，安规产品，军用以及贵司对元器件有严苛要求的产品。
PROD cannot fully understand and be familiar with customers' specific applications and requirements. Your company has the responsibility and obligation to verify whether the components and the description in the component specification meet your design requirements. Special reminder: Even if operated in accordance with existing technical standards, this component still has a chance of failure before the end of its typical life. PROD strongly recommends that your company make appropriate redundant designs for possible failure situations of this component in some typical harsh applications, such as safety products, industrial products, medical products, automotive products, aviation/aerospace products, etc., so as to avoid serious consequences when the component fails.
PROD Requirements: For specific application item, PROD strongly requires your (or company) to obtain written permission from PROD, otherwise PROD will not bear any responsibility for component failure. Specific item list include but are not limited to: automotive, aerospace, safety products, military and products that your company has strict requirements on components.



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