



产品编码 P/N	PSTFAA-Series	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E5080B
产品系列 Series	贴片网络变压器	测试频率 TEST FREQUENCY	参考参数页面

客户名称

Customer

:

客户编码

Customer P/N

:

产品系列

Series

:

贴片网络变压器
SMD LAN Transformer

产品编码

Supply P/N

:

PSTFAA-Series

发版号

Version

:

A2.0

承认日期

Endorsement Date

:

2025-12-19

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

- * 烦请贵司在正式订单下达前确认回签本承认书，否则敝司默认贵司认可本承认书内的参数与条款，并以此参数生产交货

Please confirm and sign this acknowledgement letter before placing the formal order, otherwise PROD will acquiesce that your company recognizes the parameters and terms in this acknowledgement letter, and will produce and deliver according to these parameters.

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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修订记录

REVISION RECORD



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[illegible]

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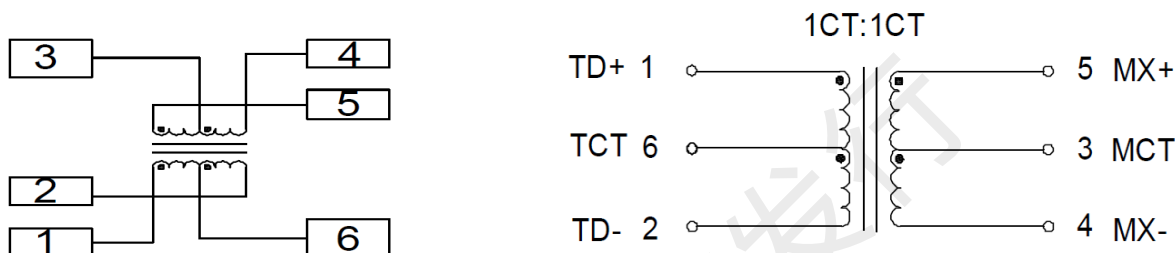
产品特点

Features

- 符合 IEEE 802.3ab 标准, 支持 1G 至 10G 以太网传输速率应用
Meets IEEE 802.3ab based Standards, Supports 1G-10G base-t transmission rate applications
- 符合 IEEE 802.3af/at/bt 标准, 电流输出 0-720mA, 支持 0-60W POE 应用
Meets IEEE 802.3af/at/bt Standards, 0-720mA current capability, Supports 0-60W POE applications

电气图

Schematic:



编码解释

Code interpretation

PSTFAA	4532	-XXX	M	1R0	P30
<u>类别码</u>	<u>尺寸系列</u>	<u>感值</u>	<u>公差</u>	<u>速率</u>	<u>Poe功率</u>
Category code	Dimension	Inductance	Tolerance	Rate standard	Poe Power

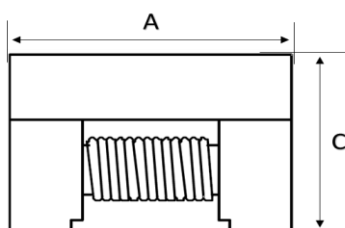
- 规格参数基于环境温度 25°C 取得
All test Data is referenced to 25°C ambient
- 工作环境温度: -40°C ~ +125°C.
Operating temperature range -40°C to +125°C.
- 产品防潮等级为 2 级, 保质期 1 年 (温度低于 30°C, 湿度低于 65% 存储环境)
Moisture sensitivity level (MSL) 2 (1 year floor life at <30°C/65% relative humidity).
- 务必考虑最终的产品设计, 元器件布局, 线路板走线, 以及使用环境过程中, 电感最终温度不得超过 125°C
The operating temperature of inductance do not exceed 125°C
- 使用电感时, 请注意阅读最后一页的注意事项
The announcements is on last page



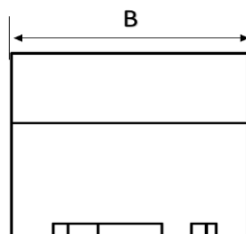
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封装尺寸 Dimension (mm)

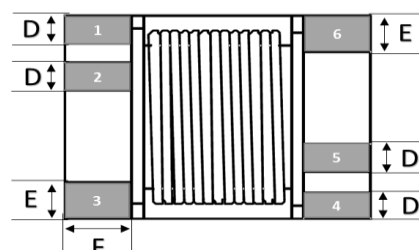
正视图
Front view



侧视图
side view

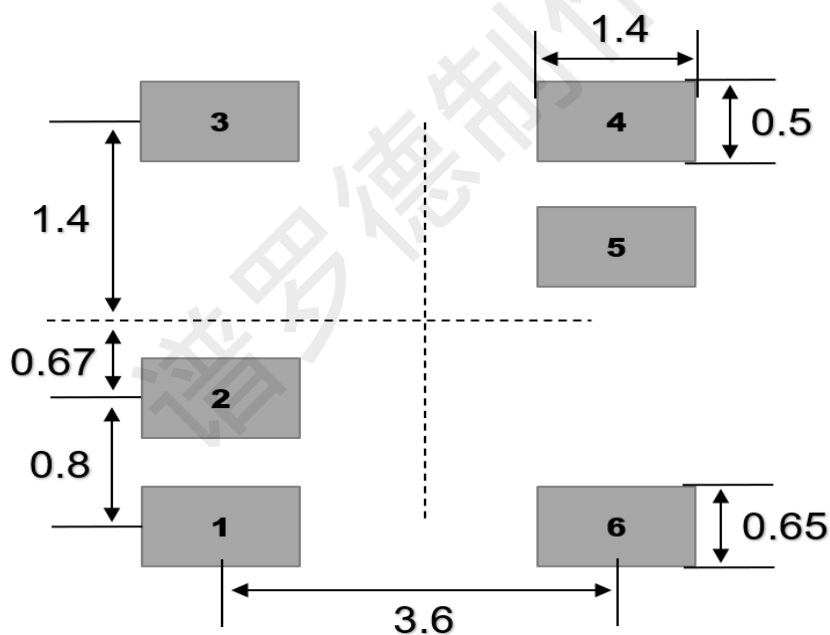


底视图
Bottom view



系列	封装尺寸 Dimension						MPQ
Series	A	B	C	D	E	F	卷盘/Reel
4532	4.6±0.2	3.4±0.2	3.2±0.2	0.45 Ref	0.6 Ref	1.0 Ref	2000

焊盘尺寸 PCB LAY OUT (mm)



* 焊盘1 2 4 5尺寸宽度相同，焊盘3 6尺寸宽度相同，所有焊盘长度一致；左右两边间距相同
1, 2, 4, 5 pad sizes are the same, 3, 6 pad sizes are the same

特性参数

Feature Parameters



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电气参数

Electrical Characteristics

Rate standard POE Rating	P/N	Turns Ratio	Cww	OCL	DCR	HI-POT	Insertion Loss	Return Loss
		100KHz/0.1V			@25°C	1mA	SDD21	SDD11
		1~2 To 5~4		1~2,5~4		1~2 TO 5~4	1~2 To 5~4	1~2 To 5~4
1G Base-T Non Poe	PSTFAA4532-351M1R0P00	1CT:1CT ±5%	45pF Max	350uH Min with 8mA DC Bias	4.5Ω Max	1500V	-1.0dB Max@1-100MHz -1.5dB Max @100-125MHz	-18dB Min@1-40MHz -12+10*Log(F/80) dB Min @40-100MHz
1G Base-T 15w Poe	PSTFAA4532-201M1R0P15	1CT:1CT ±5%	35pF Max	200uH Min with 8mA DC Bias	2.5Ω Max	1500V		
1G Base-T 30w Poe	PSTFAA4532-171M1R0P30	1CT:1CT ±5%	35pF Max	170uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		
1G Base-T 60w Poe	PSTFAA4532-151M1R0P60	1CT:1CT ±5%	35pF Max	150uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		
2.5G Base-T Non Poe	PSTFAA4532-201M2R5P00	1CT:1CT ±5%	35pF Max	200uH Min with 8mA DC Bias	2.5Ω Max	1500V	-1.0dB Max@1-150MHz -1.5dB Max @150-200MHz	-20dB Min@1-40MHz -20+15*Log(F/40) dB Min @40-150MHz
2.5G Base-T 15w Poe	PSTFAA4532-151M2R5P15	1CT:1CT ±5%	35pF Max	150uH Min with 8mA DC Bias	2.5Ω Max	1500V		
2.5G Base-T 30w Poe	PSTFAA4532-151M2R5P30	1CT:1CT ±5%	35pF Max	150uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		
2.5G Base-T 60w Poe	PSTFAA4532-151M2R5P60	1CT:1CT ±5%	35pF Max	150uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		



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特性参数

Feature Parameters



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		100KHz/0.1V			@25°C	1mA	SDD21	SDD11
		1~2 To 5~4		1~2,5~4		1~2 TO 5~4	1~2 To 5~4	1~2 To 5~4
5G Base-T Non Poe	PSTFAA4532- 181M5R0P00	1CT:1CT ±5%	35pF Max	180uH Min with 8mA DC Bias	2.5Ω Max	1500V	-1.0dB Max@1-100MHz -1.0dB Max@1-150MHz -1.5dB Max @150- 250MHz	-18dB Min@1-40MHz -18+10*Log(F/40) dB Min@40-250MHz
5G Base-T 15W Poe	PSTFAA4532- 181M5R0P15	1CT:1CT ±5%	35pF Max	180uH Min with 8mA DC Bias	2.5Ω Max	1500V		
5G Base-T 30W Poe	PSTFAA4532- 151M5R0P30	1CT:1CT ±5%	35pF Max	150uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		
5G Base-T 60W Poe	PSTFAA4532- 121M5R0P60	1CT:1CT ±5%	35pF Max	120uH Min with 10.8mA DC Bias	1.2Ω Max	1500V		
10G Base-T Non Poe	PSTFAA4532- 121M100P00	1CT:1CT ±5%	35pF Max	120uH Min with 8mA DC Bias	2 Ω Max	1500V	-0.5dB Max@1-65MHz -1.0dB Max @65-125MHz -2.0dB Max@125-400MHz -4.5dB Max @400- 500MHz	-20.5dB Min@1-100MHz -20.5+20.75*Log(F/100) dB Min @100-200MHz -12dB Min@200-300MHz -9.5dB Min@300-400MHz -7.5dB Min@400-500MHz
10G Base-T 15W Poe	PSTFAA4532- 121M100P15	1CT:1CT ±5%	35pF Max	120uH Min with 10.8mA DC Bias	2 Ω Max	1500V		
10G Base-T 30W Poe	PSTFAA4532- 121M100P30	1CT:1CT ±5%	35pF Max	120uH Min with 8mA DC Bias	1.2 Ω Max	1500V		
10G Base-T 60W Poe	PSTFAA4532- 121M100P60	1CT:1CT ±5%	35pF Max	120uH Min with 10.8mA DC Bias	1.2 Ω Max	1500V		



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S曲线

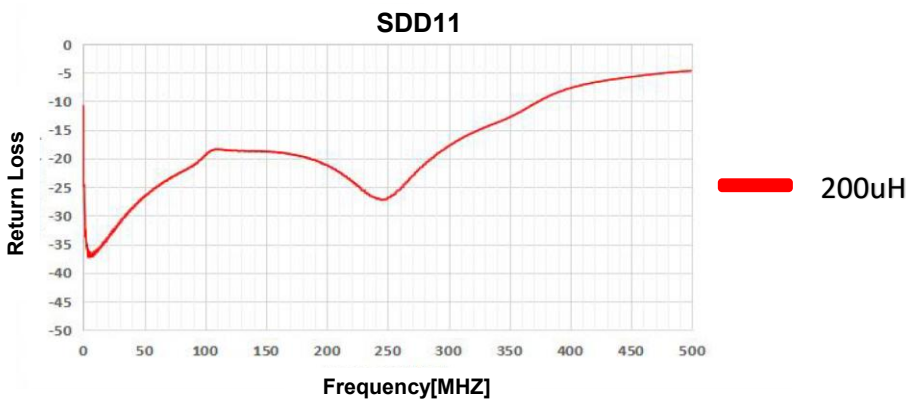
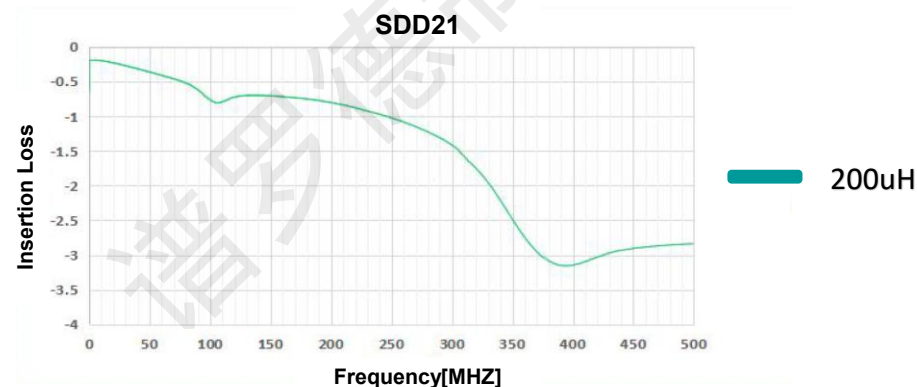
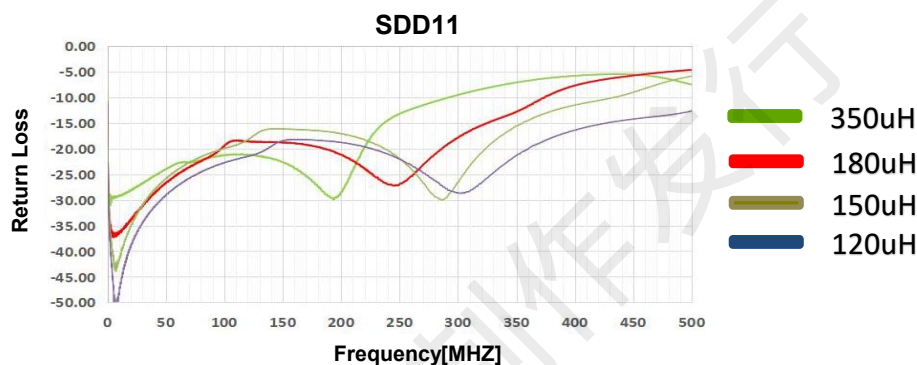
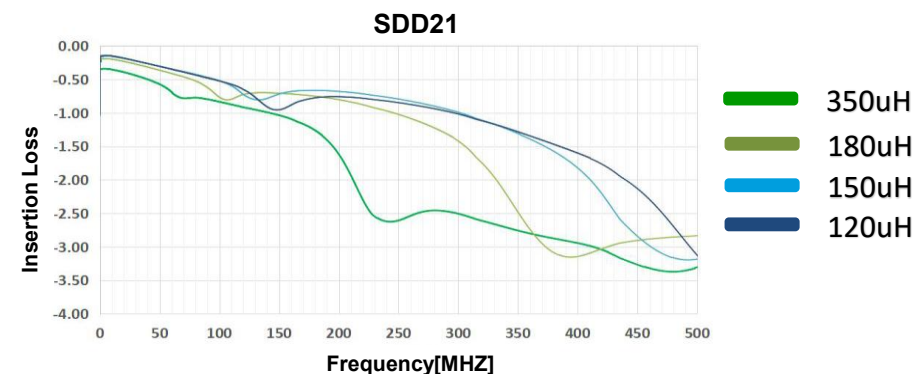
S-parameter curve



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典型的S曲线

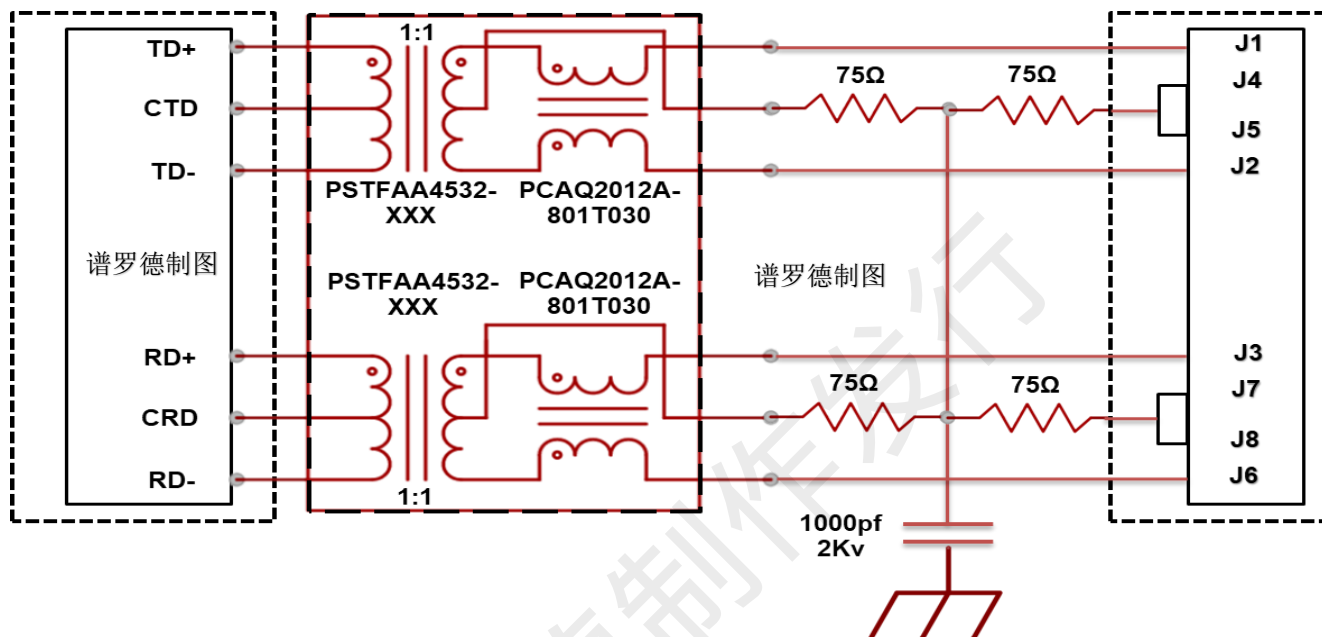
Typical S-parameter curve



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典型的PCB布局

Typical PCB layout



配套共模电感商品链接

* [PCAQ2012A-801T030](#)

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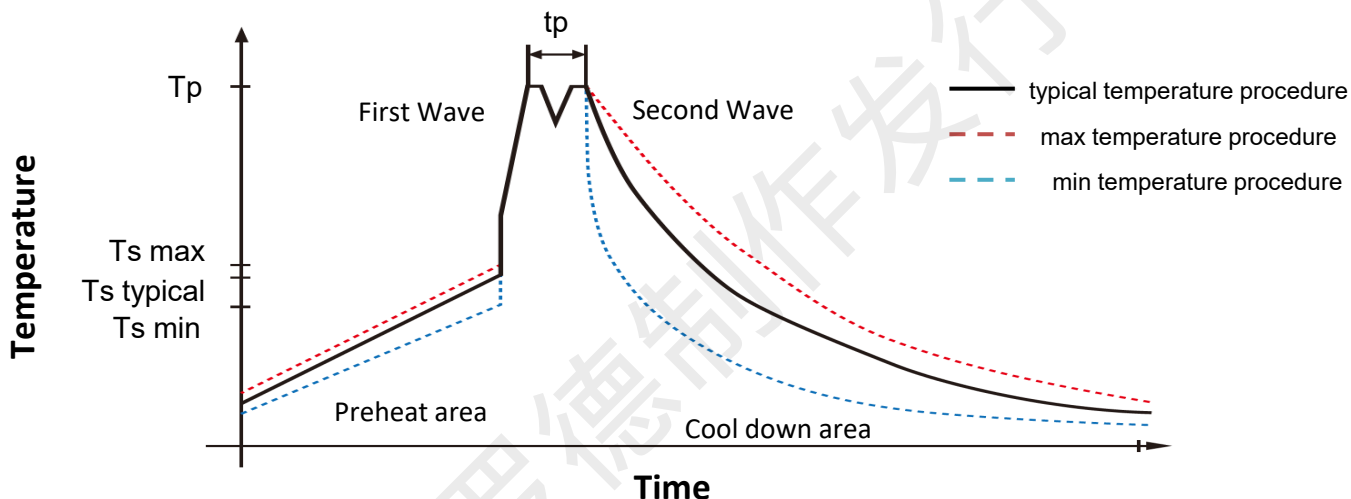
材料清单 Material List

NO.	材料 ITEM	材质规格 Material	制造商 Manufacturer
1	磁芯/Core	Ferrite Core	Flag Magnetic (Or use the same specifications from another manufacturer)
2	漆包线/Wire	Enameled Copper Wire	Elektrisola (Or use the same specifications from another manufacturer)
3	胶水/Glue	Epoxy	XINCENGHAI (Or use the same specifications from another manufacturer)
4	锡/Sn	Sn	QIANDAO (Or use the same specifications from another manufacturer)

*组件的材料不限制于清单内的制造商/The material of the part is not limited to the listed manufacturer

焊接温度（推荐）

Recommended Classification Wave Soldering Profile



Profile Feature	Item	Pb-Free Assembly	Sn-Pb Assembly
Preheat Temperature Min	Ts min	100 °C	
Preheat Temperature Typical	Ts typical	120 °C	
Preheat Temperature Max	Ts max	130 °C	
Preheat Time ts from Ts min to Ts max	ts	70 seconds	
Ramp-up Rate	ΔT	150 °C max.	
Peak Temperature	Tp	250 °C - 260 °C	235 °C - 260 °C
Time of actual peak temperature	tp	max. 10 seconds max. 5 seconds each wave	
Ramp-down Rate, Min		~ 2 K/ second	
Ramp-down Rate, Typical		~ 3.5 K/ second	
Ramp-down Rate, Max		~ 5 K/ second	
Time 25 °C to 25 °C		4 minutes	

* 参考标准: EN61760-1:2006 refer standard to: EN61760-1:2006



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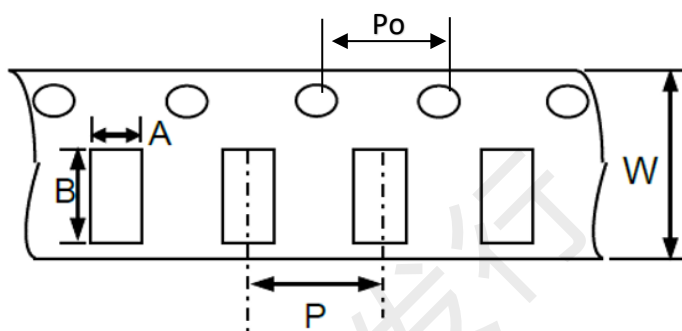
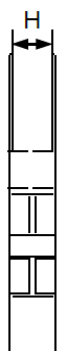
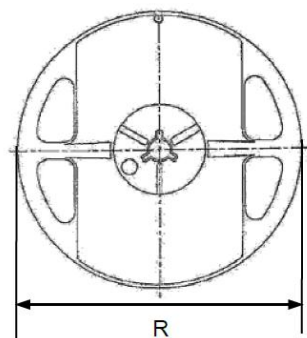


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載帶卷盤尺寸 : (mm)

Packing Dimension

MPQ	R	H	A	B	P	Po	W	Ko
2000pcs/卷盤	330	18	3.6	4.9	8	4	12	3.5

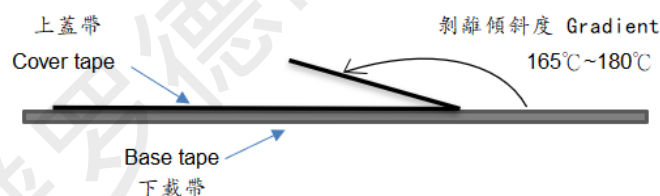


載帶剝離力:

Typical Pulling Force

對上蓋帶施加力: 20g~120g內即可與下載帶剝離

Tape Peeling off force: 20g~120g



裝箱數量:

Package Quantity

2000pcs/卷盤

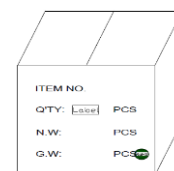
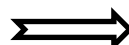
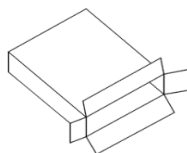
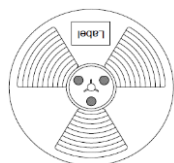
2000pcs/Reel

4000pcs/每盒

4000pcs/ Middle box

12000pcs/每箱

12000pcs/ Outer box



◎ 實際出貨過程, 依據客戶需求狀況的不同, 包裝數量會有變化, 最終的包裝數量請參照實際出貨包裝

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10~65%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%~65%. 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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