



产品编码 P/N	PCAQ1608~4532 Series	测试设备 TEST INSTRUMENT	Keysight:E4991 Chroma:16502 3302
产品系列 Series	贴片共模电感	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

贴片共模电感

SMD Common Mode Choke

产品编码

Supply P/N

PCAQ1608~4532 Series

发版号

Version

A3.1

承认日期

Endorsement Date

2026-9-3

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

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谱罗德电子科技（深圳）有限公司

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修订记录

REVISION RECORD



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[illegible]

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产品特点

Features

- 阻抗范围广，适用于不同频率的信号噪音抑制
30Ω~2200Ω are optional for different noise level and signal frequency
- 产品薄，尺寸小，高频共模噪声抑制效果好
Low profile, Small size, Prevention of common mode noise at high frequency
- SMD结构便于SMT生产自动化贴片
SMD structure is convenient for SMT production automation patch
- 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



编码解释

Code interpretation

PCAQ	1608B	121	T100
类别码	尺寸系列	阻抗值	额定电流
Category code	Dimension	Impedance	Rated Current

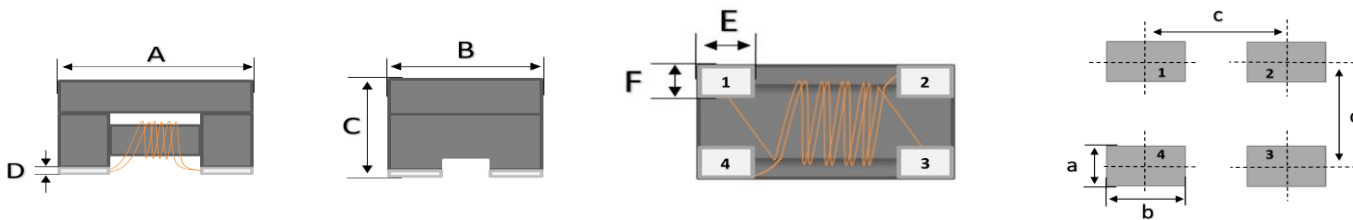
封装尺寸

Dimension

(mm)

推荐的焊盘尺寸

Recommanned Land Pattern



系列	封装尺寸						焊盘尺寸			
	Dimension						Land Pattern			
Series	A	B	C	D	E	F	a	b	c	d
1608(0603)	1.6±0.1	0.8±0.1	1.1±0.1	0.12 Typ	0.33 Typ	0.25 Typ	0.3	0.5	1.1	0.5
2012(0805)	2.0±0.2	1.2±0.2	1.2±0.2	0.15 Typ	0.55 Typ	0.46 Typ	0.6	0.7	1.3	0.8
2520(1008)	2.5±0.2	2.0±0.2	1.2±0.2	0.15 Typ	0.45 Typ	0.6 Typ	0.6	0.8	1.65	1.3
3216(1206)	3.2±0.2	1.6±0.2	1.9±0.2	0.15 Typ	0.6 Typ	0.6 Typ	0.8	0.8	2.4	0.8
3225(1210)	3.2±0.2	2.5±0.2	2.2±0.2	0.15 Typ	0.8 Typ	0.9 Typ	1.1	1.0	2.2	1.4
4532(1812)	4.5±0.2	3.2±0.2	2.8±0.2	0.2 Typ	1.2 Typ	1.0 Typ	1.3	1.5	3.0	1.9

- 规格参数基于环境温度25℃取得
All test Data is referenced to 25℃ ambient
- 部分规格电感值给出的“+∞”，则意味着该规格不规定电感值上限；尺寸标识符“Ref”则代表该尺寸为参考值，无明确的正负公差
∞=unlimited, Ref=It is merely a reference value and does not have positive or negative tolerance.
- 电感工作环境温度：-40℃~125℃
Operating temperature range -40℃ to +125℃
- 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，请查阅最后一页注意事项
The announcements is on last page



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1608~2520 Series

产品编码 P/N	@ 25 °C Ambient Temperture						
	阻抗	精度	DCR	绝缘性 (IR)	额定电流	额定电压	耐压
	Impedance	Tolerance	Ω	MΩ	Rated Current	Rated Voltage	withstand voltage
	Ω	±	Max	Min	mA	V	V (Max)
PCAQ1608B-220T050	22	25%	0.11	10	500	25	80
PCAQ1608B-250T050	25	25%	0.11	10	500	25	80
PCAQ1608B-600T035	60	25%	0.2	10	350	25	80
PCAQ1608B-900T030	90	25%	0.25	10	300	25	80
PCAQ1608B-121T030	120	25%	0.25	10	300	25	80
PCAQ1608B-141T030	140	25%	0.25	10	300	25	80
PCAQ1608B-201T030	200	25%	0.25	10	300	25	80
PCAQ1608B-221T030	220	25%	0.25	10	300	25	80
PCAQ1608B-251T028	250	25%	0.28	10	280	25	80
PCAQ2012B-300T045	30	25%	0.2	10	450	50	125
PCAQ2012B-670T040	67	25%	0.25	10	400	50	125
PCAQ2012B-750T040	75	25%	0.25	10	400	50	125
PCAQ2012B-900T040	90	25%	0.3	10	400	50	125
PCAQ2012B-121T040	120	25%	0.3	10	400	50	125
PCAQ2012B-161T035	160	25%	0.35	10	350	50	125
PCAQ2012B-181T035	180	25%	0.35	10	350	50	125
PCAQ2012B-201T030	200	25%	0.4	10	300	50	125
PCAQ2012B-221T030	220	25%	0.4	10	300	50	125
PCAQ2012B-261T030	260	25%	0.4	10	300	50	125
PCAQ2012B-361T030	360	25%	0.45	10	300	50	125
PCAQ2012B-371T030	370	25%	0.45	10	300	50	125
PCAQ2012B-601T025	600	25%	0.6	10	250	50	125
PCAQ2012B-801T025	800	25%	0.88	10	250	50	125
PCAQ2012B-102T015	1000	25%	1.3	10	150	50	125
PCAQ2520B-301T050	300	25%	0.2	10	500	50	125
PCAQ2520B-601T035	600	25%	0.38	10	350	50	125
PCAQ2520B-102T030	1000	25%	0.5	10	300	50	125

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3216~4532 Series

产品编码 P/N	@ 25 °C Ambient Temperture						
	阻抗	精度	DCR	绝缘性 (IR)	额定电流	额定电压	耐压 withstand voltage
	Impedance	Tolerance	Ω	MΩ	Rated Current	Rated Voltage	
	Ω	±	Max	Min	mA	V	V (Max)
PCAQ3216B-900T045	90	25%	0.3	10	450	50	125
PCAQ3216B-121T040	120	25%	0.35	10	400	50	125
PCAQ3216B-161T035	160	25%	0.4	10	350	50	125
PCAQ3216B-201T035	200	25%	0.45	10	350	50	125
PCAQ3216B-221T030	220	25%	0.45	10	300	50	125
PCAQ3216B-261T030	260	25%	0.5	10	300	50	125
PCAQ3216B-331T030	330	25%	0.6	10	300	50	125
PCAQ3216B-361T030	360	25%	0.6	10	300	50	125
PCAQ3216B-601T025	600	25%	0.8	10	250	50	125
PCAQ3216B-801T025	800	25%	0.9	10	250	50	125
PCAQ3216B-102T025	1000	25%	1	10	250	50	125
PCAQ3216B-142T025	1400	25%	1	10	250	50	125
PCAQ3216B-202T025	2000	25%	1.2	10	250	50	125
PCAQ3216B-222T025	2200	25%	1.2	10	250	50	125
PCAQ3225B-670T030	67	25%	0.4	10	300	50	125
PCAQ3225B-900T028	90	25%	0.5	10	280	50	125
PCAQ3225B-121T027	120	25%	0.55	10	270	50	125
PCAQ3225B-161T026	160	25%	0.58	10	260	50	125
PCAQ3225B-181T026	180	25%	0.6	10	260	50	125
PCAQ3225B-251T023	250	25%	0.7	10	230	50	125
PCAQ3225B-331T020	330	25%	0.8	10	200	50	125
PCAQ3225H-601T150	600	25%	0.15	10	1500	50	125
PCAQ3225H-102T120	1000	25%	0.3	10	1200	50	125
PCAQ3225H-142T100	1400	25%	0.4	10	1000	50	125
PCAQ4532B-900T300	90	25%	0.07	10	3000	50	125
PCAQ4532B-121T300	120	25%	0.07	10	3000	50	125
PCAQ4532B-221T150	220	25%	0.1	10	1500	50	125
PCAQ4532H-221T350	220	25%	0.035	10	3500	50	125
PCAQ4532B-331T130	330	25%	0.11	10	1300	50	125
PCAQ4532H-331T320	330	25%	0.045	10	3200	50	125
PCAQ4532H-471T300	470	25%	0.06	10	3000	50	125
PCAQ4532B-601T150	600	25%	0.12	10	1500	50	125
PCAQ4532H-601T250	600	25%	0.07	10	2500	50	125
PCAQ4532B-801T100	800	25%	0.16	10	1000	50	125
PCAQ4532H-801T230	800	25%	0.1	10	2300	50	125
PCAQ4532B-102T080	1000	25%	0.18	10	800	50	125
PCAQ4532H-102T210	1000	25%	0.11	10	2100	50	125
PCAQ4532B-142T070	1400	25%	0.2	10	700	50	125
PCAQ4532H-142T200	1400	25%	0.12	10	2000	50	125



特性曲线

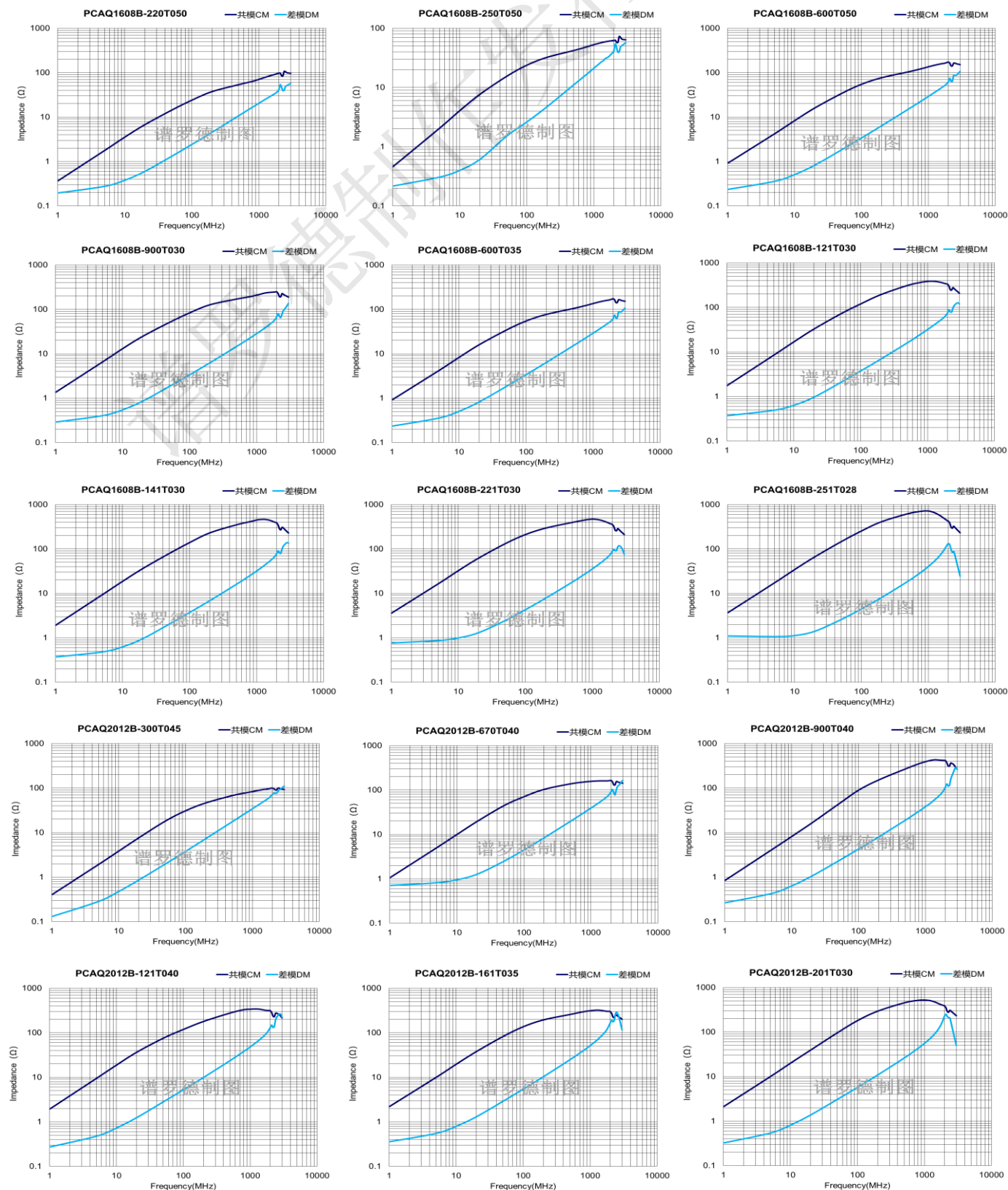
Performance Curves



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特性曲线

Performance Curves



特性曲线

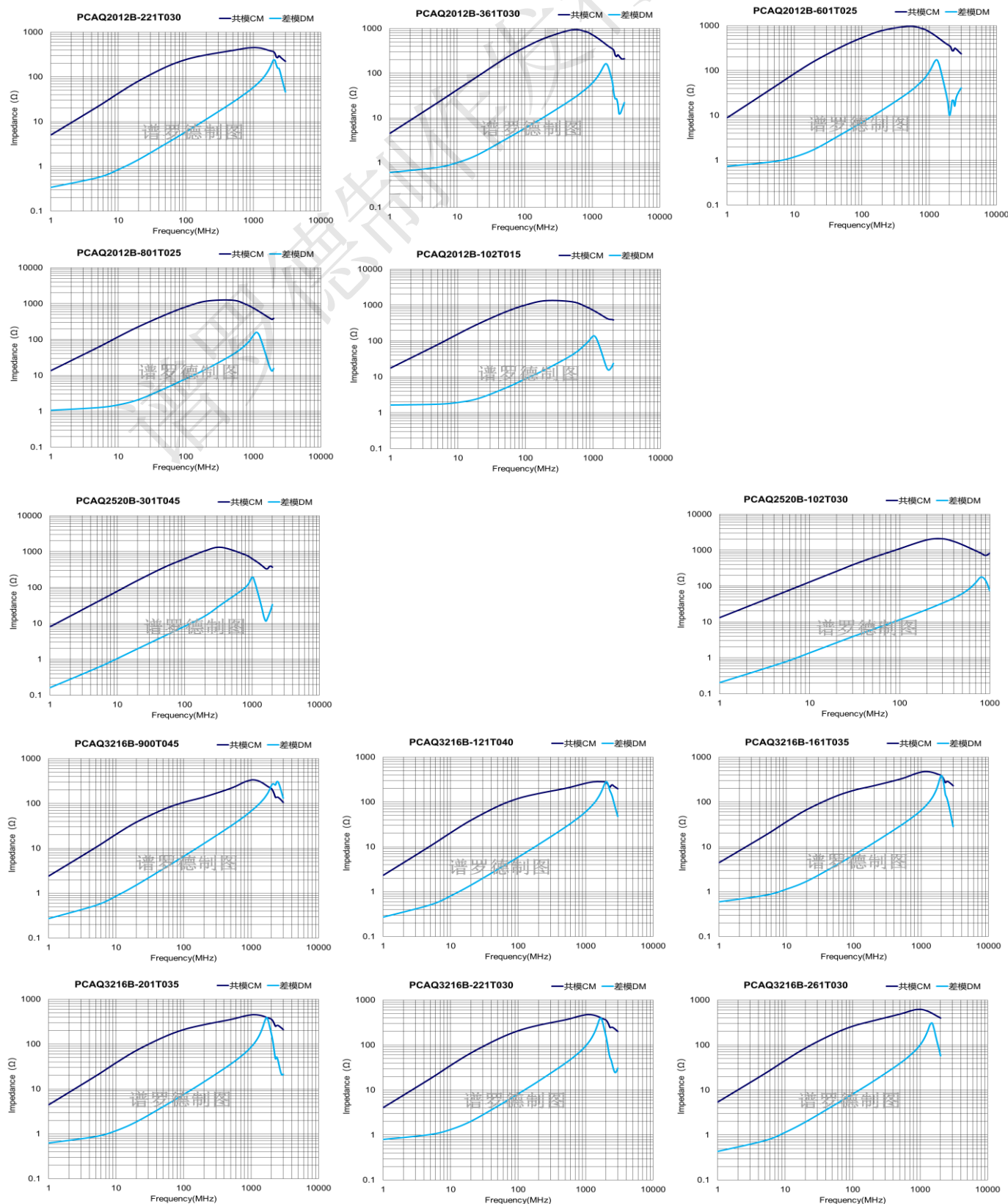
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特性曲线

Performance Curves



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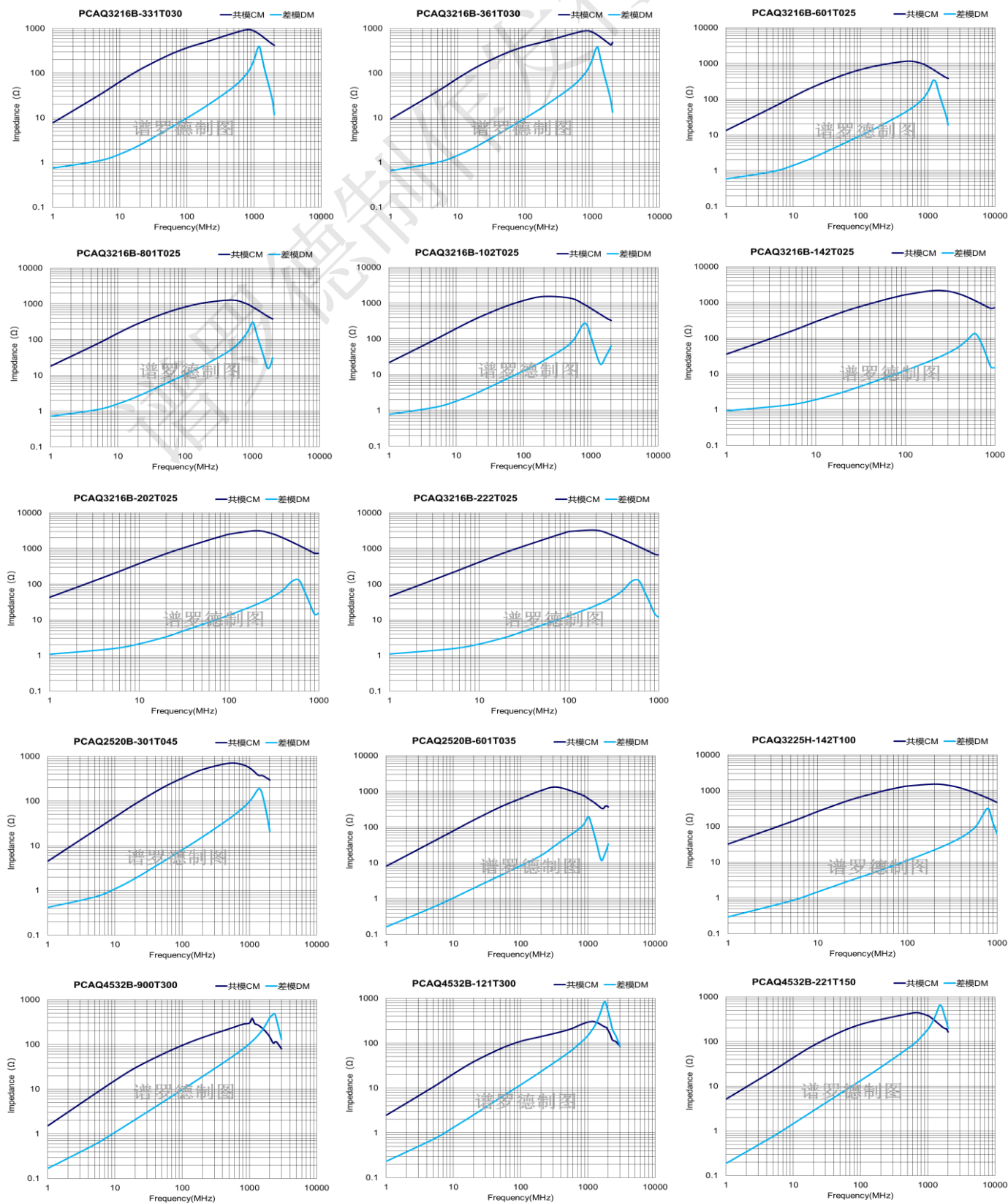
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特性曲线

Performance Curves



特性曲线

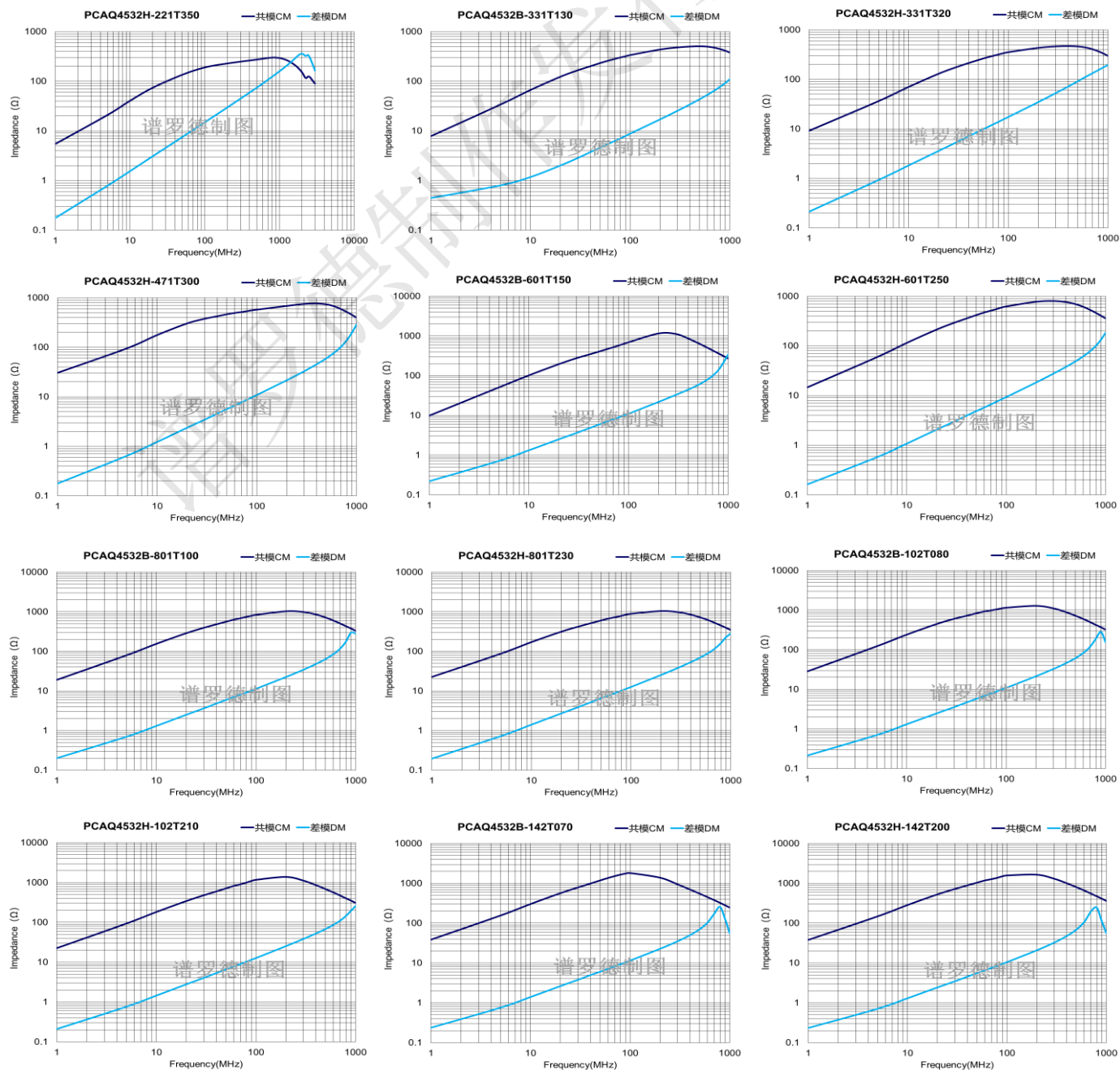
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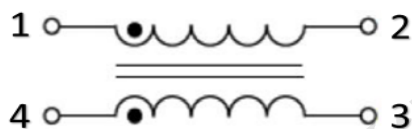
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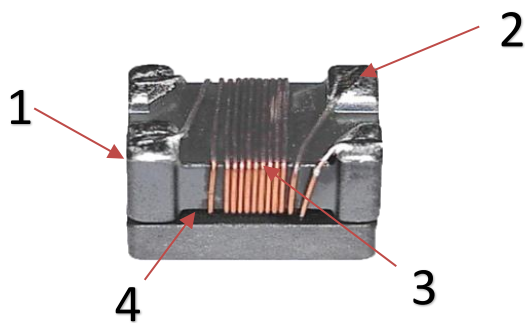


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电路结构
Connections

- ◎ 电感内置两组线圈
Inductor Contents Two (2) Set(s) of Coil

- ◎ 此产品顶部无丝印
no mark

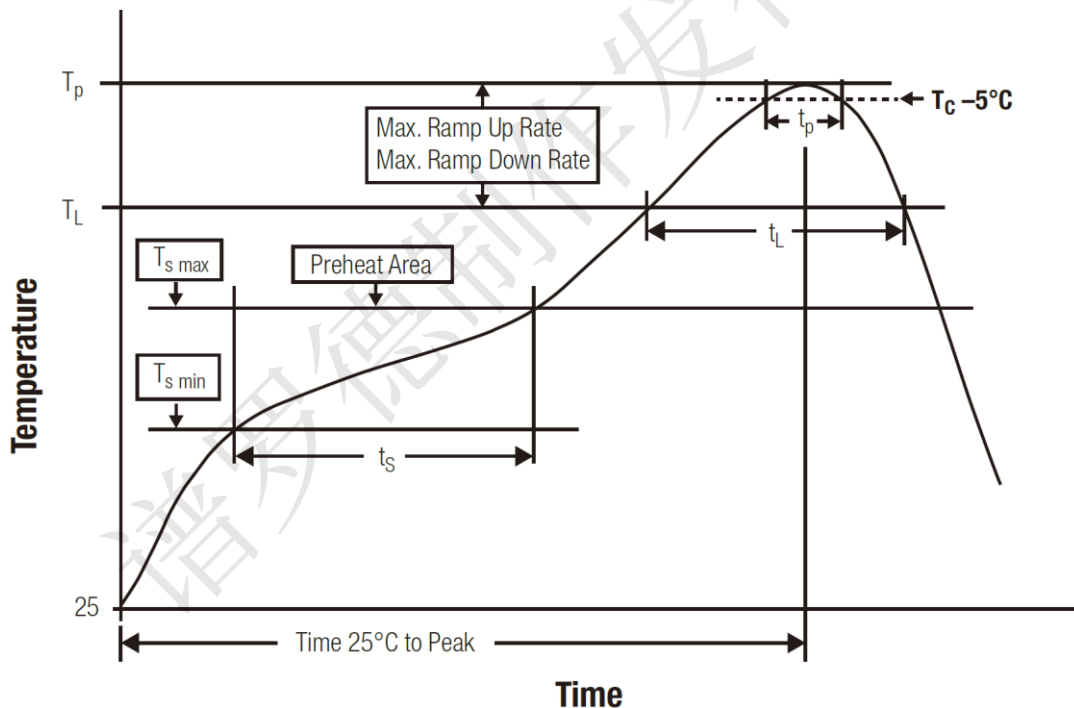
内部构造
Internal Structure

- ①：磁芯 / Core
②：电极 / Electrode
③：线圈 / coil
④：磁胶水 / Glux

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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

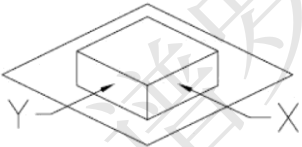
* 参考标准: IPC/ JEDEC J-STD-020E refer standard to: IPC/ JEDEC J-STD-020E



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可靠性实验

RELIABILITY TESTING

项目/Item	方法/Method
Operating Temperature	- 40 to +125 °C (Contain Heating coil)
Appearance Inspection	No external defects by visual inspection
Terminal Strength	After soldering , between copper plaet and terminals of coils , push in two directions of X , Y with standing 10N(1.02kg) for10+/-2 sec. Terminal should not peel off. (Refer to figure at right)
	
Heat endurance of reflow soldering	Preheating: 150±10°C for 60 seconds Soldering: 245±5°C dwell for 5+/- 0.5 second
Insulating resistance	Over 10 MΩ at 50V D.C . between wire and core
Dielectric Strength	Apply at 0.5KV 1mA for 3S between wire and core
Temperature characteristics	Inductance coefficient (0~2,000) × 10 / °C (- 40~ + 125 °C)
Humidity characteristics	Inductance deviation within ± 10% , after 96 hours in 90~95% relative humidity at 40 ± 2 °C and 1 hours drying under normal condition

A test is made under the above mentioned condition , and it is kept for 2 hours in the normal



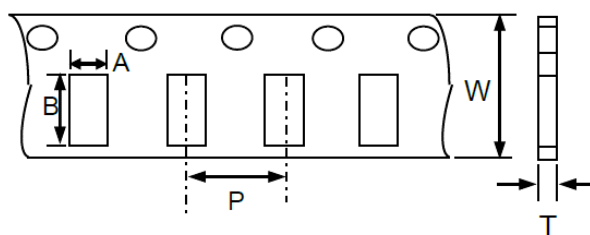
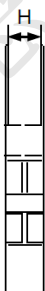
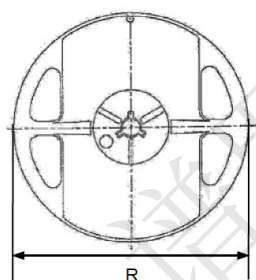
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載帶卷盤尺寸 : (mm)

Packing Dimension

系列 Series	R	H	A	B	P	W	T
1608(0603)	178	8.4	0.9	1.75	4	8	0.2
2012(0805)	178	8.4	1.55	2.25	4	8	0.27
2520(1008)	178	8.4	2.2	2.7	4	8	0.27
3216(1206)	178	8.4	1.88	3.53	4	8	0.27
3225(1210)	178	8.4	2.7	3.5	4	8	0.27
4532(1812)	178	12.4	3.3	4.7	8	12	1.1

* 数值为典型值Typ

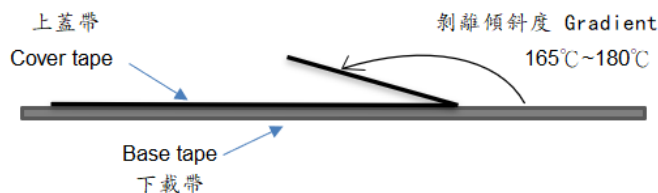


載帶剝離力:

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



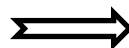
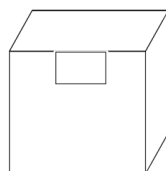
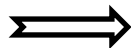
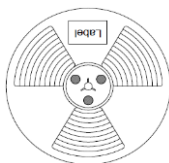
裝箱數量:

Package Quantity

最小包裝
MPQ

內盒
Middle box

外箱
Outer box



系列 series	最小包裝 MPQ	內盒 Middle Box	外箱 Outer box
1608(0603)	3000	12000	72000
2012(0805)	2000	8000	48000
2520(1008)	2000	8000	48000
3216(1206)	2000	8000	48000
3225(1210)	1000	3000	18000
4532(1812)	500	1500	9000





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.
- ◎ 焊接前请先预热，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：IPC/ JEDEC J-STD-020E
Please preheat the product before welding; it is recommended to control the preheating temperature and welding temperature within 150℃. refer standard to: IPC/ JEDEC J-STD-020E
- ◎ 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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