



深圳市富尔电子科技有限公司

ADD: 广东省深圳市南山区后海工业七路8号

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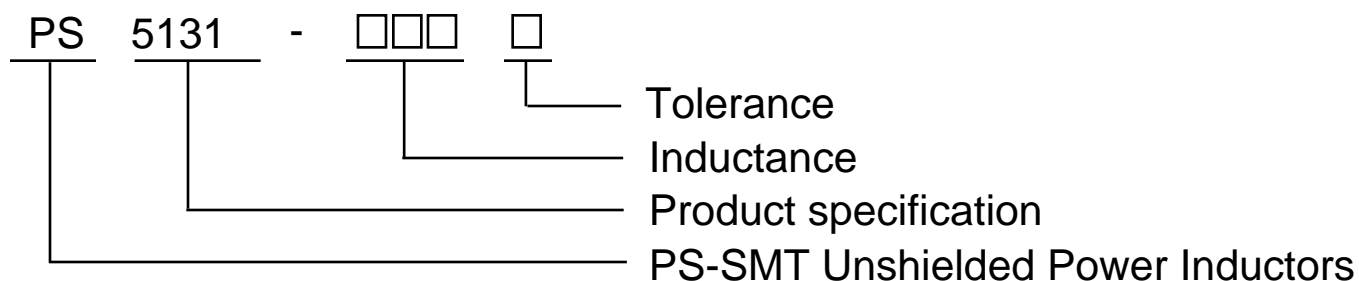
Email: xy@frcoil.com



SMT Power Inductors - PS5131

产品型号

PRODUCT IDENTIFICATION



Tolerance:

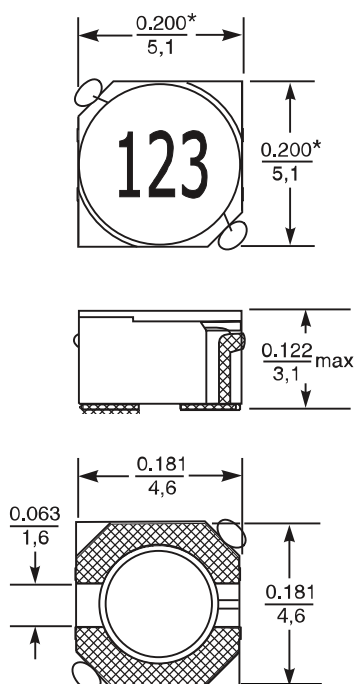
Code	Tolerance
102	1.0uH
103	10.0uH
104	100.0uH
105	1000.0uH
106	10000.0uH

Inductance:

Code	Tolerance
J	± 5%
K	± 10%
L	± 15%
M	± 20%
N	± 30%

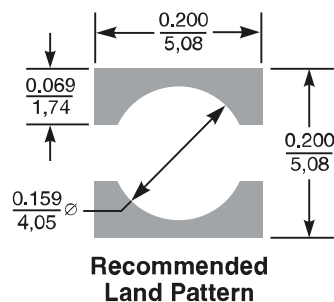
外观尺寸

SHAPE AND DIMENSIONS



Dimensions are in $\frac{\text{inches}}{\text{mm}}$

* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.035 in / 0,9 mm.





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规格特性

SPECIFICATIONS

Part number	Inductance ¹ ±20% (μH)	DCR max (Ohms)	SRF typ ² (MHz)	Isat (A) ³			Irms (A) ⁴	
				10% drop	20% drop	30% drop	20°C rise	40°C rise
PS5131-222M	2.2	0.023	65.0	1.76	2.08	2.30	2.00	3.30
PS5131-332M	3.3	0.032	60.0	1.33	1.58	1.73	1.60	2.90
PS5131-472M	4.7	0.045	48.0	1.08	1.32	1.42	1.40	2.50
PS5131-562M	5.6	0.055	44.0	1.00	1.20	1.30	1.30	2.30
PS5131-682M	6.8	0.060	42.0	0.98	1.14	1.24	1.20	2.16
PS5131-822M	8.2	0.075	40.0	0.90	1.04	1.18	1.10	2.00
PS5131-103M	10	0.083	38.0	0.85	0.98	1.13	1.00	1.90
PS5131-123M	12	0.100	35.0	0.72	0.85	0.94	0.97	1.60
PS5131-153M	15	0.115	32.0	0.67	0.78	0.86	0.94	1.50
PS5131-183M	18	0.150	26.0	0.61	0.72	0.79	0.89	1.40
PS5131-223M	22	0.160	22.0	0.54	0.64	0.70	0.87	1.30
PS5131-273M	27	0.190	19.0	0.48	0.56	0.62	0.85	1.20
PS5131-333M	33	0.216	18.0	0.44	0.52	0.58	0.80	1.10
PS5131-393M	39	0.290	17.0	0.42	0.50	0.55	0.74	1.00
PS5131-473M	47	0.320	16.0	0.38	0.46	0.51	0.71	0.95
PS5131-563M	56	0.365	15.0	0.34	0.42	0.47	0.70	0.90
PS5131-683M	68	0.480	12.5	0.31	0.38	0.42	0.66	0.85
PS5131-823M	82	0.520	12.0	0.27	0.32	0.35	0.62	0.80
PS5131-104M	100	0.700	11.5	0.26	0.30	0.33	0.55	0.69
PS5131-124M	120	0.800	11.0	0.23	0.27	0.30	0.51	0.62
PS5131-154M	150	1.10	10.0	0.21	0.26	0.28	0.47	0.58
PS5131-184M	180	1.20	9.0	0.19	0.23	0.25	0.43	0.54
PS5131-224M	220	1.40	8.0	0.18	0.21	0.23	0.39	0.50
PS5131-274M	270	1.80	7.5	0.15	0.18	0.20	0.35	0.45
PS5131-334M	330	2.10	6.8	0.13	0.17	0.19	0.32	0.42
PS5131-394M	390	2.20	5.4	0.12	0.15	0.16	0.30	0.38

• 5.1 × 5.1 mm footprint; 3.1mm high shielded inductors

• Low DCR and excellent current handling

1. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc using an Agilent/HP 4263B LCR meter or equivalent.

2. SRF measured using Agilent/HP 4191A or equivalent.

3. DC current at which the inductance drops the specified amount from its value without current.

4. Current that causes the specified temperature rise from 25°C ambient.

5. Electrical specifications at 25°C.

Designer's Kit C362 contains 3 of each value

Core material Ferrite

Terminations RoHS compliant matte tin over nickel over phos bronze (current production) or gold over nickel over phos bronze (prior production). Other terminations available at additional cost.

Weight 0.20 – 0.24 g

Ambient temperature -40°C to +85°C with Irms current, +85°C to +125°C with derated current

Storage temperature Component: -40°C to +125°C.

Packaging: -40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)



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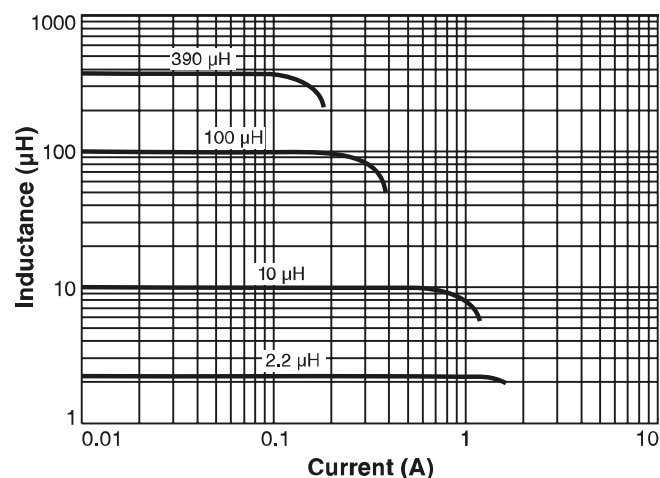


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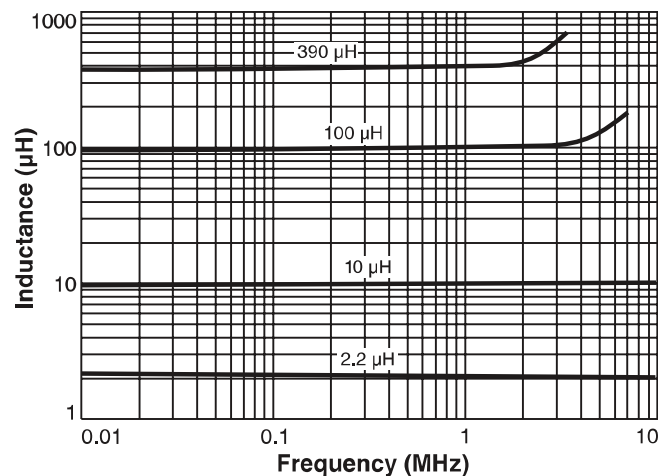
电气特性

TYPICAL ELECTRICAL CHARACTERISTICS

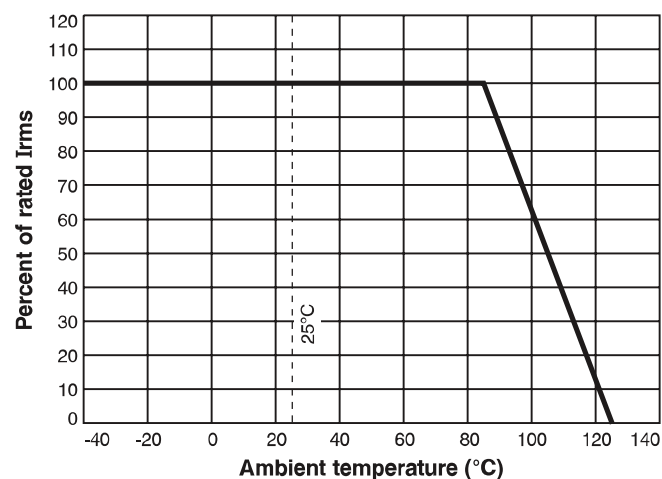
Typical L vs Current



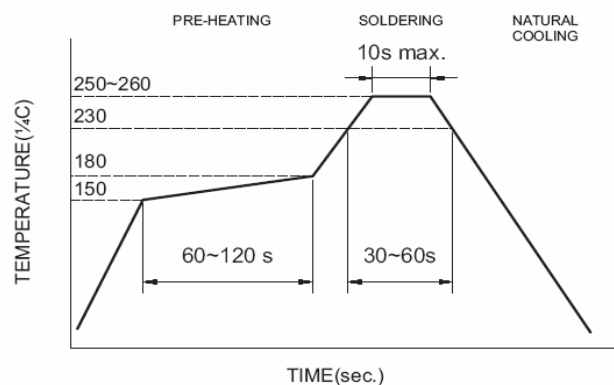
Typical L vs Frequency



Irms Derating



.Recommended Reflow





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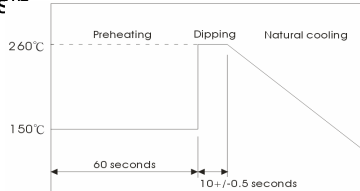
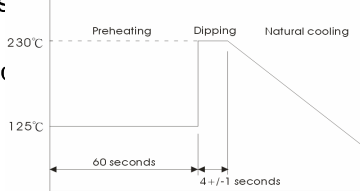


SMT Power Inductors - PS5131

电气特性

TYPICAL ELECTRICAL CHARACTERISTICS

PASSED MEASUREMENT / 通过如下测量

ITEM	Performance	Test Condition
Operating Temperature 操作温度	-55~+125℃	
Storage temperature 储存温度	-40~+85℃	
Rated Current 额定电流	Refer to standard electrical characteristics list. 参考标准特性规格表	
Temperature Rise Test 温升测试	40℃ max.(Δt) 40度最大	
Electrical Performance Test		
Solder Heat Resistance 耐焊锡热	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$. 外观: 无显著异常。 电感值: 变异性在初始值 $\pm 20\%$ 以内	Preheat: 150℃, 60sec. Solder: H63A Solder temperature: 260 ± 5 ℃ Flux for lead free: rosin Dip time: 10 ± 0.5 sec. 预热: 150℃, 60sec. 锡炉温度: 260 ± 5 ℃ 时间: 10 ± 0.5 sec. 助焊剂: rosin 
Solderability Test 端面焊锡性	More than 90% of the terminal electrode should be covered with solder. 端电极之锡覆盖面达90%以上。	Preheat: 125 ± 25 ℃, 60sec. Solder: H63A Solder temperature: 230 ± 5 ℃ Flux for lead free: rosin Dip time: 4 ± 1 sec. 预热: 125 ± 25 ℃, 60sec. 锡炉温度: 230 ± 5 ℃ 时间: 4 ± 1 sec. 助焊剂: rosin 
High Temperature Resistance Test 高温放置测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损。 电感值: 变异性在初始值20%以内。 电性无短路或断线	Temperature: 85 ± 2 ℃. Applied current: rated current. Duration: 500 hrs.



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电气特性

TYPICAL ELECTRICAL CHARACTERISTICS

PASSED MEASUREMENT / 通过如下测量

ITEM	Performance	Test Condition															
Humidity Resistance Test 高湿放置测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值: 变异值在初始值20%以内. 电性无短路或断线	Temperature: $40 \pm 2^\circ\text{C}$. Applied current: rated current. Duration: 500 hrs. Humidity: 90~95%															
Thermal shock 热冲击试验	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值: 变异值在初始值20%以内. 电性无短路或断线	Condition for 1 cycle Step1: $-25 \pm 2^\circ\text{C}$, 30 \pm 3 min. Step2: Room temperature within 15 min. Step3: $+85 \pm 5^\circ\text{C}$, 30 \pm 3 min. Step4: Room temperature within 15 min. Number of cycles: 50 <table border="1"> <thead> <tr> <th>Phase</th><th>Temperature($^\circ\text{C}$)</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>$-25 \pm 2^\circ\text{C}$</td><td>30 \pm 3</td></tr> <tr> <td>2</td><td>Room Temp.</td><td>15</td></tr> <tr> <td>3</td><td>$+85 \pm 2^\circ\text{C}$</td><td>30 \pm 3</td></tr> <tr> <td>4</td><td>Room Temp.</td><td>15</td></tr> </tbody> </table>	Phase	Temperature($^\circ\text{C}$)	Time(min)	1	$-25 \pm 2^\circ\text{C}$	30 \pm 3	2	Room Temp.	15	3	$+85 \pm 2^\circ\text{C}$	30 \pm 3	4	Room Temp.	15
Phase	Temperature($^\circ\text{C}$)	Time(min)															
1	$-25 \pm 2^\circ\text{C}$	30 \pm 3															
2	Room Temp.	15															
3	$+85 \pm 2^\circ\text{C}$	30 \pm 3															
4	Room Temp.	15															
Humidity Resistance 高湿测试	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外观不能破损 电感值: 变异值在初始值20%以内. 电性无短路或断线	Humidity: 90~95%RH. Temperature: $40 \pm 5^\circ\text{C}$. Applied current: rated current. Duration: 500 \pm 12 hrs. Measured at room temperature after placing for 2 to 3 hrs. 湿度: 90~95%RH. 温度: $40 \pm 5^\circ\text{C}$. 须加电流: 额定电流. 放置时间: 500 \pm 12 hrs. 测试结束于室温放置2~3小时, 始可测试电气特性.															

PRECAUTIONS / 注意事项

- During storage, the products must be kept in an environment away from excessive high temperatures, high humidity, dust and noxious gases which may affect solderability.
- Terminals should not be handled with fingers. This is to prevent deterioration in solderability.
- Products should not be dropped on the floor. This is to prevent damage to the products.
- 在储存阶段, 产品必须保持远离过热的温度、过高的湿度、灰尘和有害气体等可能影响可焊性效果的环境。
- 接线端不能用手指直接处理。这是为了防止降低可焊性。
- 产品不能掉到地板上。这是为了防止损坏铁氧体芯。