

◆ Scope

This specification applies to the SLO141208T Series of SMD power inductors

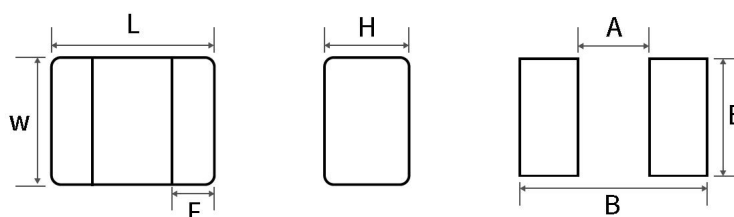
◆ Lead Free PartNumbering

SLO	141208	T	1R0	M	T	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)

- (1) Series Type
- (2) Dimension: LxWxH
- (3) Material Code
- (4) Inductance: R68=0.68uH; 1R0=1.0μH
- (5) Inductance Tolerance: M= ± 20%, N= ± 30%
- (6) Company Code
- (7) Packaging: packed in embossed carrier tape

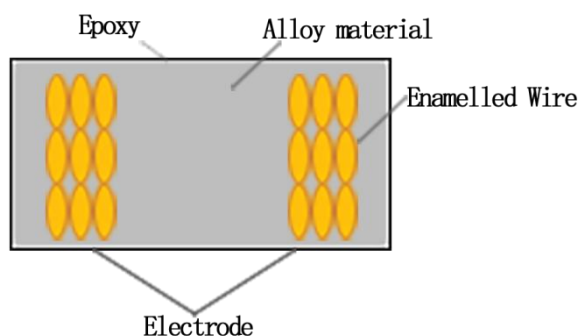


◆ Dimensions



Series	L(mm)	W(mm)	H(mm)	F(mm)	Recommended Land Patterns		
					A(mm)	B(mm)	E(mm)
SLO141208T	1.4±0.2	1.2±0.2	0.8Max.	0.45Typ.	1.5Typ.	0.4Typ.	1.3Typ.

◆ Structural drawing



No.	Component	Material
①	Body	Alloy material
②	Winding	Enamelled Wire
③	Shield	Epoxy
④	Electric	Base plating-Cu Base plating-Ni Base plating-Sn

◆ Specification

Part No.	Inductance Ls(uH)	Direct Current Resistance DCR(mΩ)		Saturation Current Isat(A)		Temperature Rise Current Irms(A)	
		Max.	Typ.	Max.	Typ.	Max.	Typ.
SLO141208TR24MTT	0.24±20%	22	27	4.10	3.75	6.00	5.75
SLO141208TR33MTT	0.33±20%	23	28	4.00	3.50	5.30	5.00
SLO141208TR47MTT	0.47±20%	29	35	3.80	3.30	4.60	4.20
SLO141208T1R0MTT	1.0±20%	77	65	3.00	2.50	3.00	2.50

Test condition & equipment :

Item	Test condition	Test equipment
Ls	1MHz/1V	HP4263BIM3532-50 or equivalent
DCR	direct-current	HP4263BRM3545 or equivalent
Isat	1MH/1V	Microtest 6379 &6220 or equivalent
Irms	ambient temperature 20℃	Microtest 6379 &6220 or equivalent

Isat: The DC current at which the inductance drops approximate 30% from its value without current, Load current time within Ls.

Irms: The DC current is inductor surface temperature to rise by 40℃.

◆ Operating Temperature Range

-40℃ ~ +125℃, Including self-heating

◆ Storage Conditions

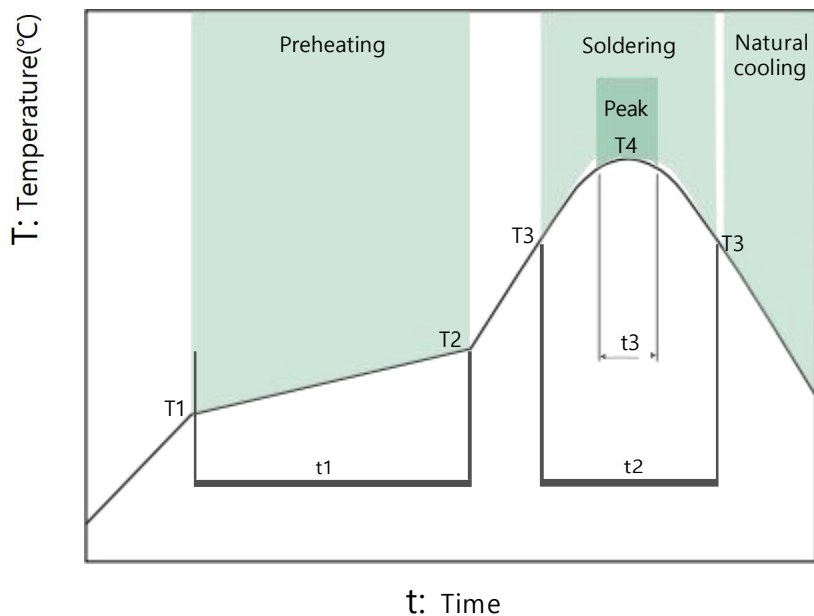
Store products in a warehouse in compliance with the following condition:

Temperature: Inductors (product with taping) -10 to +40℃;

Inductors body -40 to +85℃.

Humidity: 30~70%RH

◆ RECOMMENDED REFLOW PROFILE



Preheating			Soldering		Peak	
Temp.		Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3
150°C	180°C	60 to 120s	230°C	30 to 50s	250 to 260°C	10s max

◆ Reliability Mechanical

序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
1	绝缘电阻 Insulation Resistance	$\geq 100M\Omega$	在电感器线圈和本体顶面中间 施加100V直流电压保持60s。 100V DC between inductor coil and The middle of the top surface of the body for 60 seconds.
2	可焊性 Solderability	电极面90%以上覆盖新的焊料。 90% or more of electrode area shall be coated by new solder.	在 $(245 \pm 5)^{\circ}\text{C}$ 熔融的焊锡 (96.5Sn/3.0Ag/0.5Cu) 中浸 $(5 \pm 1)\text{s}$ 。 Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at $(245 \pm 5)^{\circ}\text{C}$ for (5 ± 1) seconds.
3	耐焊接热 Resistance to Soldering Heat	外观无可见机械损伤; 电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	在 $(260 \pm 5)^{\circ}\text{C}$ 熔融的焊锡 (96.5Sn/3.0Ag/0.5Cu) 中浸 $(10 \pm 1)\text{s}$ 。 Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at $(260 \pm 5)^{\circ}\text{C}$ for (10 ± 1) seconds.
4	端子强度 Adhesion of terminal electrode	元件的端子与本体结合无松动、 无脱落。 Strong bond between the pad and the core, without come off PC board.	将电感器用 $(260 \pm 5)^{\circ}\text{C}$, $(20 \pm 5)\text{s}$ 焊在带有0.3 mm 厚锡膏的基板上, 然后用治具垂直电极面方向加压 10N, $(10 \pm 1)\text{s}$ 。 Inductors shall be subjected to $(260 \pm 5)^{\circ}\text{C}$ for $(20 \pm 5)\text{s}$ Soldering in the base with 0.3mm solder. And then apply a load electrode way plus tax 10 N for (10 ± 1) seconds.
5	耐高温 High temperature	电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	温度 $(+85 \pm 2)^{\circ}\text{C}$, 时间 $(96 \pm 2)\text{h}$; Temperature is $(+85 \pm 2)^{\circ}\text{C}$ and keep (96 ± 2) hours.
6	耐低温 Low temperature	外观无可见机械损伤; 电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	温度 $(-40^{\circ}\text{C} \pm 2)^{\circ}\text{C}$, 时间 $(96 \pm 2)\text{h}$; Temperature is $(-40 \pm 2)^{\circ}\text{C}$ and keep (96 ± 2) hours.

序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
7	温度变化 Therma shock	外观无可见机械损伤; 电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	$(-40\pm 3)^{\circ}\text{C}$, 时间 $(30\pm 3)\text{min} \leftrightarrow (125^{\circ}\text{C} \pm 2)^{\circ}\text{C} / (30\pm 3)\text{min}$, 转换时间 $(2\sim 3)\text{min}$, 循环32次; 在室温下放置2小时后、 48小时内测试。 The test sample shall be placed at $(-40\pm 3)^{\circ}\text{C}$ and $(125\pm 2)^{\circ}\text{C}$ for $(30\pm 3)\text{min}$, different temperature conversion time is 2~3 minutes. The temperature cycle shall be repeated 32 cycles. Placed at room temperature for 2 hours, within 48 hours of testing
8	温度特性 Temperature characteristic	电感量变化率 P_{c-b}, P_{c-d} 不超过 $\pm 20\%$ 。 Inductance change P_{c-b}, P_{c-d} : Within $\pm 20\%$	A: $+20^{\circ}\text{C}$ (30~45) min $\rightarrow$ b: -40°C (30~45) min $\rightarrow$ c: $+20^{\circ}\text{C}$ (30~45) min $\rightarrow$ d: $+125^{\circ}\text{C}$ (30~45) min $\rightarrow$ e: $+20^{\circ}\text{C}$ (30~45) min $P_{c-b} = \frac{L_b - L_c}{L_c} \times 100\%$; $P_{c-d} = \frac{L_d - L_c}{L_c} \times 100\%$
9	恒定湿热 Static Humidity	外观无可见机械损伤; 电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	将电感器放置在于湿度 $(93\pm 3)\%\text{RH}$, 温度 $(40\pm 2)^{\circ}\text{C}$ 的环境中存放 $(1000\pm 2)\text{h}$, 在室温下放置2小时后、48小时内测试。 Inductors shall be subjected to $(93\pm 3)\%\text{RH}$. at $(60\pm 2)^{\circ}\text{C}$ for $(96\pm 2)\text{h}$. Placed at room temperature for 2 hours, within 48 hours of testing.
10	耐久性 (寿命) Life	外观无可见机械损伤; 电感量变化率: $\pm 10\%$ 以内。 No visible mechanical damage. Inductance change: Within $\pm 10\%$	温度 $(85\pm 2)^{\circ}\text{C}$, 时间 $(1000\pm 24)\text{h}$, 施加 I_{rms} , 在室温下放置2小时后、48小时内测试。 Inductors shall be store at $(85\pm 2)^{\circ}\text{C}$ for (1000 ± 24) hours with I_{rms} applied. Placed at room temperature for 2 hours, within 48 hours of testing.

Technical drawing of a circular machine component, showing a cross-section and a side view.

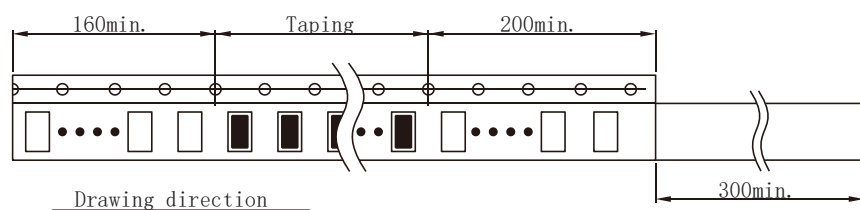
Top View (Cross-section):

- Overall diameter: $\phi 180 \pm 2.0$
- Inner diameter: $\phi 13 \pm 0.2$
- Outer diameter of the central hub: $\phi 21 \pm 0.8$
- Radial dimension from the center to the outer edge: 1.0
- Radial dimension from the center to the inner hole: 2.0 ± 0.5

Side View:

- Overall height: 14.4 max.
- Height of the central hub: $8.4^{+2.0}_{-0.0}$
- Minimum inner diameter: $\phi 60 \text{ min.}$

Series Type	A	B	K
SL0141208T	1.5	1.7	1.0



Package quantity	3000 pcs/reel
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