◆Scope

This specification applies to the SLO0320T Series of SMD power inductors.

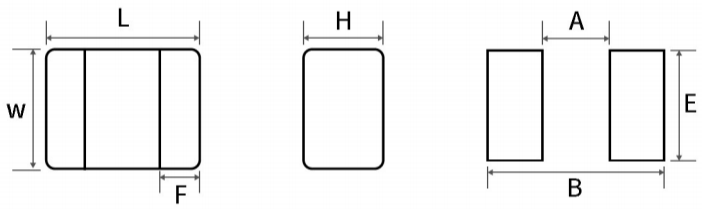
◆Lead Free PartNumbering

SLO	0320	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

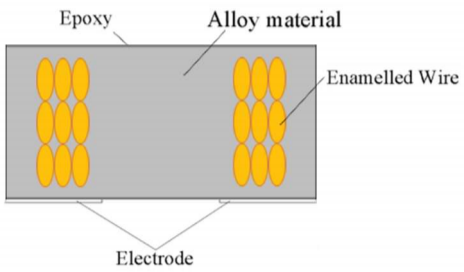


◆Dimensions



Series	L(mm)	W(mm)	H(mm)	F(mm)	RecommendedLandPatterns		
					A(mm)	B(mm)	E(mm)
SLO0320T	3.0±0.1	3.0±0.1	2.0Max.	1.00±0.2	0.8Typ.	3.0Typ.	3.0Typ.

◆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.
SLO0320TR10MTT	0.10±20%	4.5	3.3	23.0	25.0	16.0	17.0
SLO0320TR15MTT	0.15±20%	5.5	4.0	17.0	18.0	12.0	13.0
SLO0320TR22MTT	0.22±20%	6.5	5.0	16.0	17.5	10.0	11.0
SLO0320TR33MTT	0.33±20%	9.0	7.5	15.0	17.0	9.0	10.0
SLO0320TR36MTT	0.36±20%	9.0	7.5	14.5	16.5	8.0	9.0
SLO0320TR47MTT	0.47±20%	11	8.0	13.5	15.0	8.0	9.0
SLO0320TR50MTT	0.50±20%	12	9.0	13.0	15.0	8.0	9.0
SLO0320TR68MTT	0.68±20%	16	13	11.0	13.0	7.8	8.5
SLO0320T1R0MTT	1.0±20%	20	14	7.3	8.0	6.0	6.5
SLO0320T1R5MTT	1.5±20%	25	19	6.5	7.0	5.8	6.3
SLO0320T2R2MTT	2.2±20%	45	37	5.5	6.0	4.3	4.7
SLO0320T3R3MTT	3.3±20%	63	52	5.4	5.9	4.0	4.5
SLO0320T4R7MTT	4.7±20%	73	60	4.0	4.8	3.8	4.2
SLO0320T6R8MTT	6.8±20%	135	107	3.8	4.5	3.0	3.2
SLO0320T100MTT	10±20%	160	135	3.3	3.8	2.2	2.5
SLO0320T150MTT	15±20%	260	235	2.2	2.6	1.5	1.8

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°C	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°C.

Operating Temperature Range

-40℃～+125℃,Including self-heating

Storage Conditions

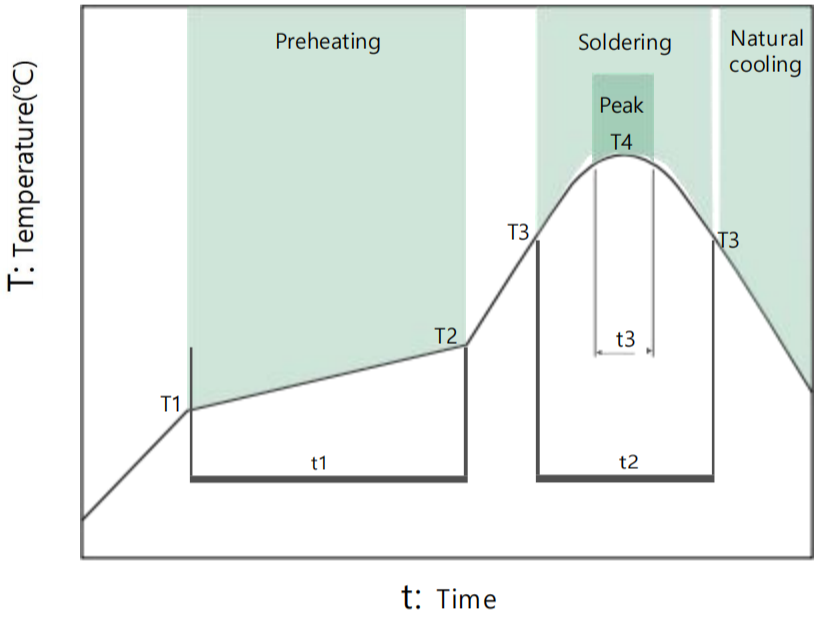
Store products in a warehouse in compliance with the following condition:

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

Inductors body -40 to +85℃.

Humidity：30~70%RH

RECOMMENDED REFLOW PROFILE



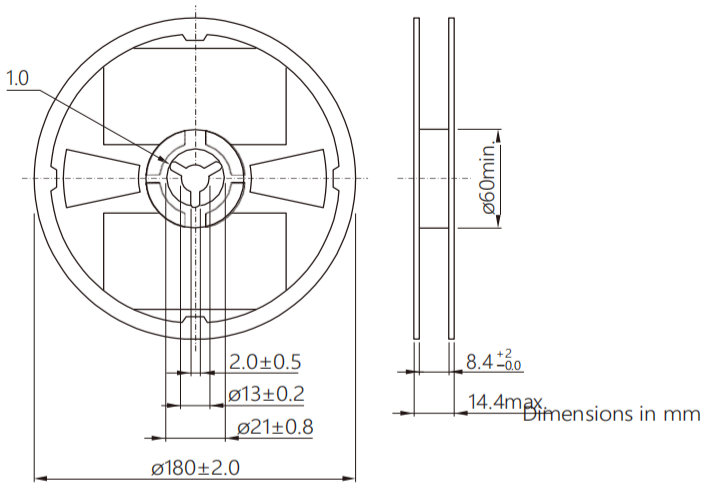
Preheating			Soldering		Peak	
Temp.		Time	Temp.	Time	Temp.	Time
T1	T2	t1	T3	t2	T4	t3
150℃	180℃	60 to 120s	230℃	30 to 50s	250 to 260℃	10s max

Reliability Mechanical

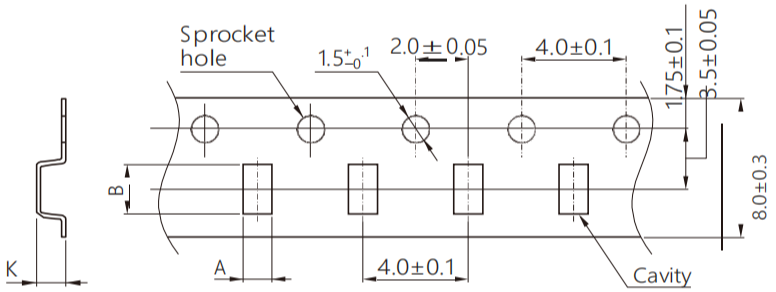
序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
1	绝缘电阻 Insulation Resistance	≥100MΩ	在电感器线圈和本体顶面中间施加100 V 直流电压保持60 s。 100 V DC between inductor coil and The middle of the top surface of the body for 60 seconds.
2	可焊性 Solderability	电极面90%以上覆盖新的焊料。 90% or more of electrode area shall be coated by new solder.	在(245±5) ℃熔融的焊锡（96.5Sn/3.0Ag/0.5Cu）中浸(5±1) s。 Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at (245±5) ℃ 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：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	在(260±5) ℃熔融的焊锡（96.5Sn/3.0Ag/0.5Cu）中浸(10±1) s。 Dip pads in flux and dip in solder pot (96.5Sn/3.0Ag/0.5Cu) at (260±5) ℃ 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±5) ℃，(20±5) s 焊在带有 0.3 mm厚锡膏的基板上，然后用冶具垂直电极面方向加压 10 N，(10±1) s。 Inductors shall be subjected to (260±5)℃ for (20±5) s Soldering in the base whit 0.3mm solder. And then aplomb electrode way plus tax 10 N for (10±1) seconds.
5	耐高温 High temperature	外观无可见机械损伤； 电感量变化率：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	温度(+85 ± 2)℃,时间(96±2) h; Temperature is (+85±2)℃ 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：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	温度(-40℃ ±2) ℃， 时间(96±2) h; Temperature is (-40±2)℃ 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 Thermal shock	外观无可见机械损伤；电感量变化率：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	(-40±3) ℃,时间(30±3) min ↔ (125℃±2) ℃/(30±3) min，转换时间(2~3) 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±3)℃ and (125±2)℃ for (30±3) 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$P_{c\text{-}b}$,$P_{c\text{-}d}$ 不超过±20%。 Inductance change $P_{c\text{-}b}$,$P_{c\text{-}d}$: Within ±20%	a: +20 ℃ （30~45） min → b: -40 ℃ （30~45） min → c: +20 ℃ （30~45） min → d: +125 ℃ （30~45） min → e: +20 ℃ （30~45） min $P_{c\text{-}b}=\frac{L_b-L_c}{L_c}\times 100\%$； $P_{c\text{-}d}=\frac{L_d-L_c}{L_c}\times 100\%$
9	恒定湿热 Static Humidity	外观无可见机械损伤; 电感量变化率：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	将电感器放置在于湿度(93±3)%RH,温度(40±2) ℃的环境中存放(1000±2) h，在室温下放置2 小时后、48 小时内测试。 Inductors shall be subjected to (93±3)%RH . at (60±2)℃ for (96±2) 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：±10%以内。 No visible mechanical damage. Inductance change: Within ±10%	温度(85 ±2)℃，时间(1000±24) h,施加Irms，在室温下放置2 小时后、48 小时内测试。 Inductors shall be store at (85±2)℃ for (1000±24) hours with Irms applied. Placed at room temperature for 2 hours, within 48 hours of testing.

Taping reel dimensions

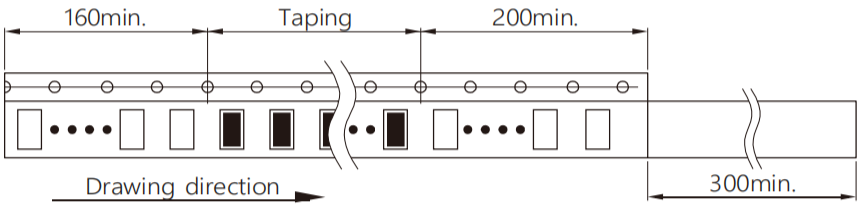


Carrier tape dimensions



Dimensions in mm

Series Type	A	B	K
SLO0320T	3.4	3.45	2.20



Dimensionsin mm

Package quantity

Package quantity	3000 pcs/reel