

SMD Molding Power Inductor

◆ Features:



- 1.High rated current
- 2.Frequency up to 3 MHz
- 3.125°C maximum total temperature operation
- 4.Low core loss
- 5.Ultra low buzz noise due to molding construction
- 6.Halogen Free & ROHS compliant



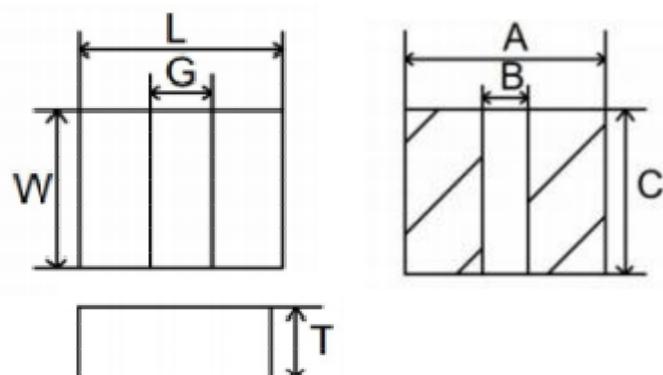
◆ Application

- 1.Laptops and PCs
- 2.Switch and servers
- 3.Base stations
- 4.DC/DC converters
- 5.Battery powered devices
- 6.SSD modules

◆ Lead Free Part Numbering

SLO 322520 T R22 M T T
 (1) (2) (3) (4) (5) (6) (7)

- (1).Series Type
- (2).Dimension:LxGxW
- (3).Material Code
- (4).Inductance:R22=0.22uH 2R2=2.2uH
- (5).Inductance Tolerance:M=±20% N=±30%
- (6).Company Code
- (7).Packaging:Packed in embossed carrier tape



Series	L	G	W	T	A	B	C
SLO322520T	3.2±0.2	1.1	2.5±0.2	2.00MAX	3.20	1.00	2.50

◆ Specifications

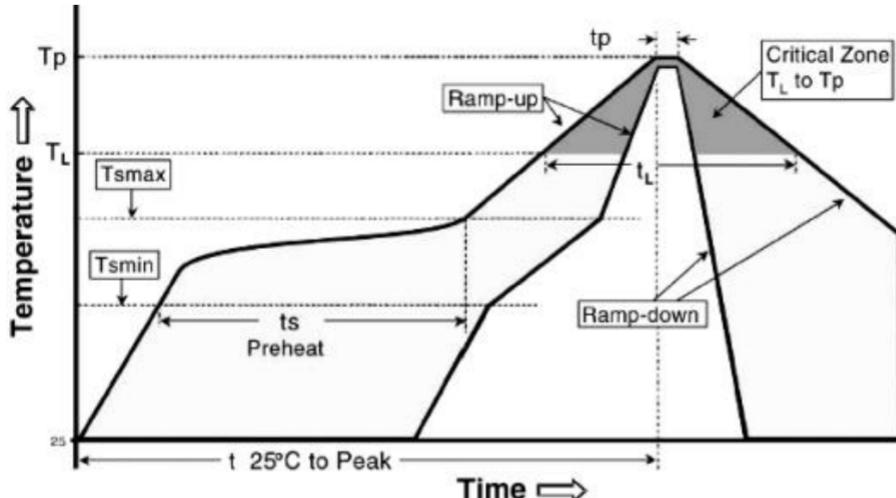
Part Number	L0(uH) @(0A) 1MHz ±20%	Rdc(mΩ)		Heat rating current Irms(A)		Saturation current Iast(A)	
		Typical	Max	Typical	Max	Typical	Max
SLO322520TR07MTT	0.07	2.5	3.2	22.0	20.0	25.0	24.0
SLO322520TR10MTT	0.10	3.0	4.0	16.0	15.0	21.5	20.5
SLO322520TR15MTT	0.15	4.0	5.0	14.0	13.0	20.0	18.0
SLO322520TR22MTT	0.22	5.0	6.0	12.0	11.0	16.5	15.5
SLO322520TR27MTT	0.27	5.5	6.5	16.0	15.0	16.0	15.0
SLO322520TR33MTT	0.33	7.5	9.0	9.5	9.0	15.5	14.0
SLO322520TR47MTT	0.47	9.0	10.5	9.5	8.5	15.0	13.0
SLO322520TR68MTT	0.68	12.5	14.5	9.0	8.0	13.0	11.0
SLO322520T1R0MTT	1.0	15.0	17.5	8.2	7.5	9.0	8.3
SLO322520T1R5MTT	1.5	22.0	25.0	6.5	6.0	6.8	6.0
SLO322520T2R2MTT	2.2	36.0	43.0	5.4	4.8	6.5	5.5
SLO322520T3R3MTT	3.3	55.0	60.0	4.5	4.0	4.5	3.5
SLO322520T4R7MTT	4.7	81.0	94.0	3.5	3.0	4.0	3.0
SLO322520T6R8MTT	6.8	101.0	125.0	2.8	2.3	3.8	2.9
SLO322520T100MTT	10.0	170.0	200.0	1.8	1.6	2.6	2.4
SLO322520T150MTT	15.0	220.0	260.0	2.0	1.8	2.2	2.0
SLO322520T220MTT	22.0	315.0	364.0	1.8	1.5	2.0	1.7

◆ Test remarks

1. All test data is referenced to 25°C ambient. Test Condition: 1MHz, 1.0Vrms
2. Irms (Max) :DC current (A) that will cause an approximate T of 40°C .Isat(Max):DC current (A) that will cause L0 to drop approximately 30%. Operating Temperature Range -55°C to + 125°C .
3. The part temperature (ambient + temp rise) should not exceed 125 under °C the worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.
4. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
5. Maximum withstand voltage 30V.

◆ Soldering Condition

This is for recommendation, please customer perform adjustment according to actual application
 Recommend Reflow Soldering Profile: (solder: Sn96.5/Ag3/Cu0.5)



Profile Feature	Lead (Pb)-Free solder
Preheat:	
Temperature Min (Tsmin)	150°C
Temperature Max (Tsmax)	200°C
Time (Tsmin to Tsmax) (ts)	60-120 seconds
Average ramp-up rate: (Ts max to Tp)	3°C/second max.
Time maintained above Temperature (TL)	217°C
Time (TL)	60-150 seconds
Peak Temperature (Tp)	260°C
Time within +0-5 °C of actual peak Temperature (Tp) ²	10 seconds
Ramp-down Rate	6°C/second max
Time 25°C to Peak Temperature	8minutes max

Allowed Re-flow times: 2 times

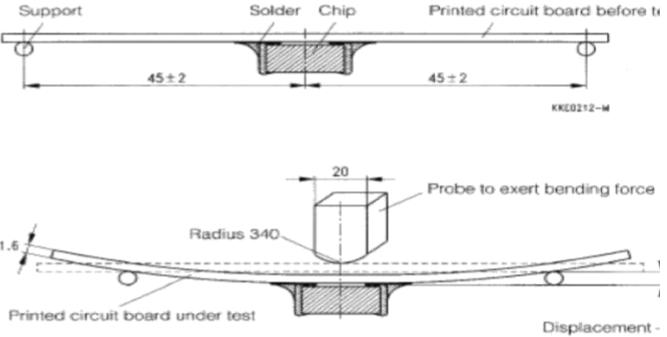
Remark: To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow fumace

◆ Packing: 3000PCS/Reel

◆ Reliability

Item	Requirement	Test Methods and Remarks								
Solderability	1.No case deformation or change in appearance. 2.New solder coverage More than 90%	1.Preheat: 125°C±5°C , 60S±2S 2.Tin:lead-free. 3.Temperature:245°C±5°C , flux3.0S±0.5S.								
Mechanical shock	1.No case deformation or change in appearance. 2. $\Delta L/Lo \leq \pm 10\%$	1.Acceleration: 100G 2.Pulsetime: 6ms 3.3 times in each positive and negative direction of 3 mutual perpendicular directions								
Mechanical vibration	1.No case deformation or change in appearance. 2. $\Delta L/Lo \leq \pm 10\%$	<p>1.The test samples shall be soldered to the board. Then it shall be submitted to below test conditions.</p> <table border="1"> <tr> <td>Fre.Range</td> <td>10~55Hz</td> </tr> <tr> <td>Total Amplitude</td> <td>1.5mm</td> </tr> <tr> <td>Sweeping Method</td> <td>10Hz to 55Hz to 10Hz</td> </tr> <tr> <td>Time</td> <td>For 2 hours on each X,Y,Z axis.</td> </tr> </table> <p>2.Recovery: At least hours of recovery under the standard condition after the test, followed by the measurement within 24±2 hours.</p>	Fre.Range	10~55Hz	Total Amplitude	1.5mm	Sweeping Method	10Hz to 55Hz to 10Hz	Time	For 2 hours on each X,Y,Z axis.
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Thermal Shock	Inductance change: Within ±10% Without distinct damage in appearance	1.First -55°C for 30minutes, last 125°C for 30 minutes as 1 cycle. Go through 1000cycles. 2.Max transfer time is 2 minutes. 3.Measured at room temperature after placing for 24±2 hours								
Humidity Resistance	Inductance change: Within ±10% Without distinct damage in appearance	1.Reflow 2 times, 2.85°C, 85%RH, 1000hours 3.Measured at room temperature after placing for 24±2 hours								
Low temperature storage	Inductance change: Within ±10% Without distinct damage in appearance	1.Temperature: -55±2°C 2.Time: 1000hours 3.Measured at room temperature after placing for 24±2 hours								

◆ Reliability

Item	Requirement	Test Methods and Remarks
High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: $+125 \pm 2^\circ\text{C}$ 2. Time: 1000hours 3. Measured at room temperature after placing for 24 ± 2 hours
Board Flex	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1、 Run through IR reflow for 2 times; 2、 Place the 100mm X 40mm board into a fixture similar to the one shown in below Figure with the component facing down 3、 The apparatus shall consist of mechanical means to apply a force which will bend the board(D)x=2mm minimum. 4、 The duration of the applied forces shall be $60 \pm 5\text{sec}$. The force is to be applied only once to the board. 
Terminal Strength	No removal or split of the termination or other defects shall occur.	1、 The test samples shall be soldered to the board 2、 Push the product vertically from the side of the sample using the thrust tester. 3、 Automotive electronics: 17.7N, 60S \pm 1s, X, Ydirect. 