

SMD Molding Power Inductor

◆ Features

- 1、Magnetically shielded construction, low DC resistance
- 2、The use of magnetic iron powder ensure capability for large current
- 3、Low audible core noise
- 4、Ideal for DC-DC converter applications in hand held personal computer and etc
- 5、Frequency Range: up to 30MHz
- 6、RoHS compliant

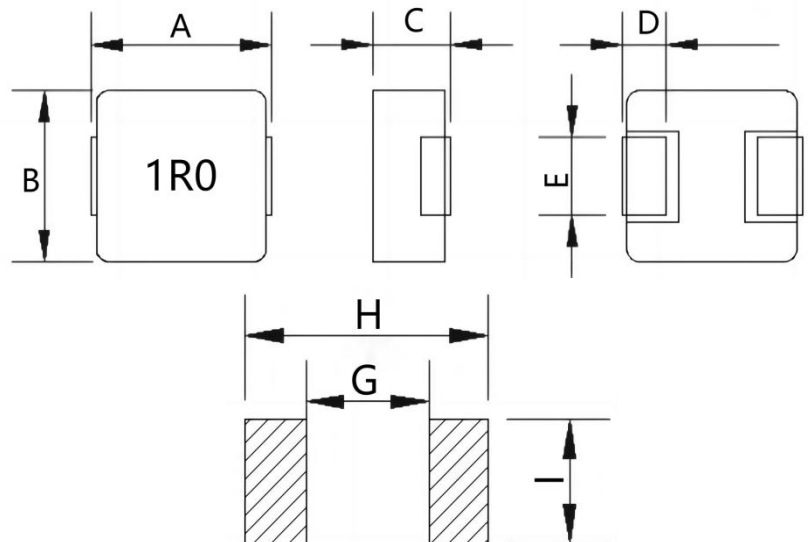
◆ Applications

- 1、Nsmart phone, MID
- 2、Next-generation mobile devices with muTifunction such as adding color TV and digital movie cameras
- 3、Flat-screen TVs, blue-ray disc recorders, set top box
- 4、Notebooks, desktop computers, servers, graphic cards
- 5、Portable gaming devices, personal navigation systems personal muTimedia devices
- 6、Automotive systems
- 7、Telecomm, base stations


◆ Lead Free Part Numbering

SLO 2313 H 1R0 M T T
 (1) (2) (3) (4) (5) (6) (7)

- (1) Series Type
- (2) Dimension: A X C
- (3) Material Code
- (4) Inductance: 1R0=1.0 μ H; 2R2=2.2 μ H;
- (5) Inductance Tolerance: M=±20%, N=±30%
- (6) Company Code
- (7) Packaging: packed in embossed carrier tape


◆ Dimensions

Series	A	B	C	D	E	G Typ	H Typ	I Typ
SLO2313H	23.5±0.5	22.0±0.3	12.6±0.4	5.0±0.4	19.0±0.3	12.5	24.0	19.6

◆ Specification

Part No.	Inductance	DC Resistance	Saturation Current		Heating Rating Current	
	L0 (μH)	DCR (mΩ)	Isat (A)		Irms (A)	
	100 kHz, 1V	MAX.	MAX	TYP	MAX	TYP
SLO2313H1R0MTT	1.0	0.95	54.0	60.0	65.0	70.0
SLO2313H1R5MTT	1.5	1.15	48.0	52.0	57.0	62.0
SLO2313H2R2MTT	2.2	1.25	43.0	48.0	52.0	58.0
SLO2313H3R3MTT	3.3	1.75	37.0	41.0	47.0	49.0
SLO2313H4R7MTT	4.7	2.20	34.0	38.0	44.0	47.0
SLO2313H6R8MTT	6.8	3.10	32.0	36.0	36.0	40.0
SLO2313H100MTT	10	4.15	20.0	28.0	30.0	33.0
SLO2313H150MTT	15	6.12	18.0	23.0	23.0	26.0
SLO2313H220MTT	22	11.0	14.0	15.0	18.0	22.0
SLO2313H330MTT	33	15.4	10.5	12.0	16.0	19.0
SLO2313H470MTT	47	20.8	10.0	12.0	14.0	17.0
SLO2313H680MTT	68	29.5	9.0	12.0	12.0	14.0
SLO2313H820MTT	82	34.2	7.7	9.0	10.0	12.0
SLO2313H101MTT	100	40.0	7.5	9.0	9.5	11.0

NOTES:

- 1、 All test data is referenced to 25°C ambient
- 2、 Operating temperature range - 55°C to+125 °C
- 3、 Irms (A):DC current (A) that will cause an approximate ΔTof 40 °C(reference ambient temperature is25 °C)
- 4、 Isat(A):DC current (A) that will cause L0 to drop approximately 30 %.(Internal control standards at 40% MAX)
- 5、 The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions.
Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application

◆ Reliability Mechanical

Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in appearance 2. New solder coverage More than 95%	1.Preheat: 155℃±5℃ , 60S±2S 2.Tin: lead-free. 3.Temperature:240℃±5℃ , flux 3.0S±0.5S.
Mechanical shock	1. No case deformation or change in appearance 2. $\Delta L/L_0 \leq \pm 10\%$	1. Acceleration: 100G 2. Pulse time: 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. $\Delta L/L_0 \leq \pm 10\%$	1. Reflow: 2times 2. Frequency: 10HZ~55HZ~10HZ, 20 Min/Cycles 3. Amplitude: 1.52 mm 4. Directions: X,Y,Z 5. Time: 12 cycle / direction
Endurance Reliability		
Item	Specification and Requirement	Test Method
Thermal Shock	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. First -55℃ for 30 minutes, last 125℃ for 30 minutes as 1 cycle. Go through 1000 cycles. 2. Max transfer time is 3 minutes. 3. Measured at room temperature after placing for 24±2 hours
Humidity Resistance	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1.Reflow 2 times, 2.85℃,85%RH,1000 hours 3.Measured at room temperature after placing for 24±2 hours
Low temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: -55 ± 2℃ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24±2 hours
High temperature storage	Inductance change: Within $\pm 10\%$ Without distinct damage in appearance	1. Temperature: +125 ± 2℃ 2. Time: 1000 hours 3. Measured at room temperature after placing for 24±2 hours

◆ Recommended Soldering Technologies

(1) Re-flowing Profile

Preheat condition: 150 ~200°C/60~120sec.

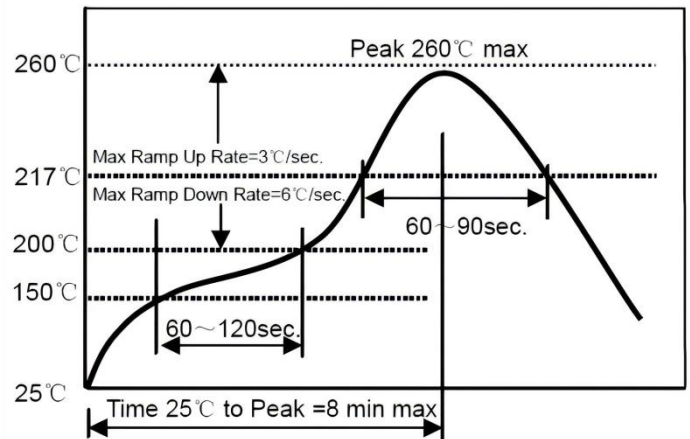
Allowed time above 217°C: 60~90sec.

Max temp: 260°C

Max time at max temp: 10 sec.

Solder paste: Sn/3.0Ag/0.5Cu

Allowed Reflow time: 2x max



(2) Iron Soldering Profile

Iron soldering power: Max. 30W

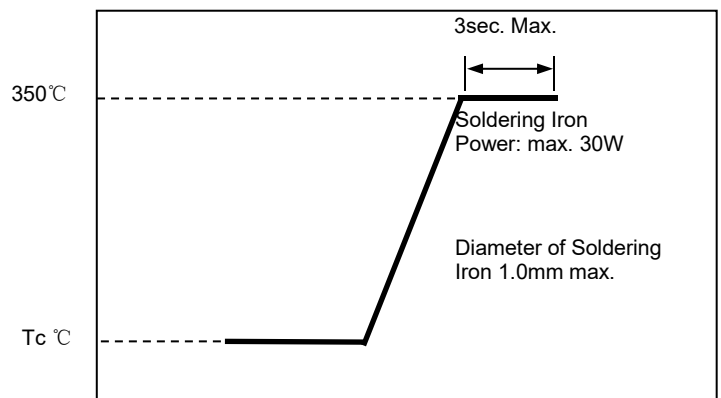
Pre-heating: 150°C/60sec.

Soldering Tip temperature: 350°C Max.

Soldering time: 3sec. Max.

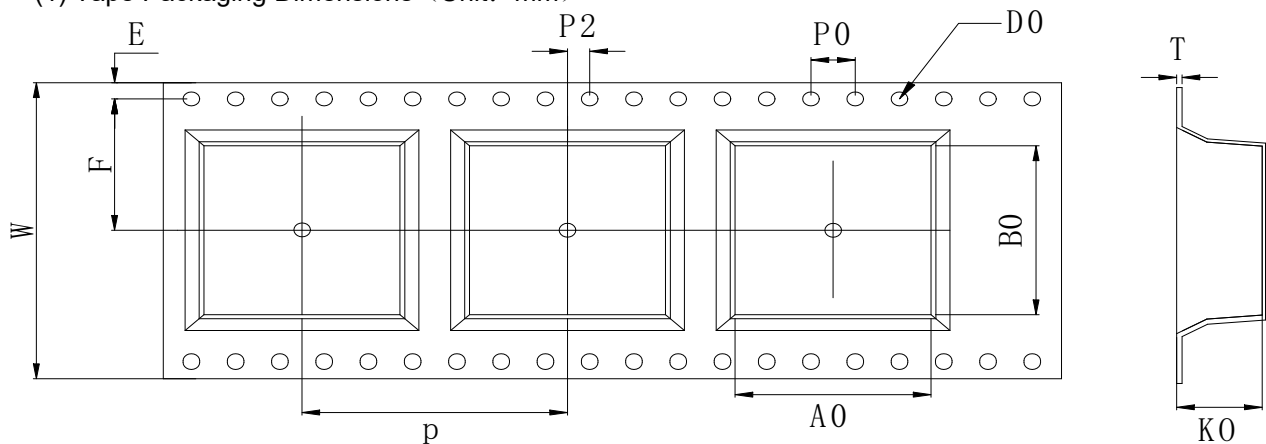
Solder paste: Sn/3.0Ag/0.5Cu

Max. 1 times for iron soldering



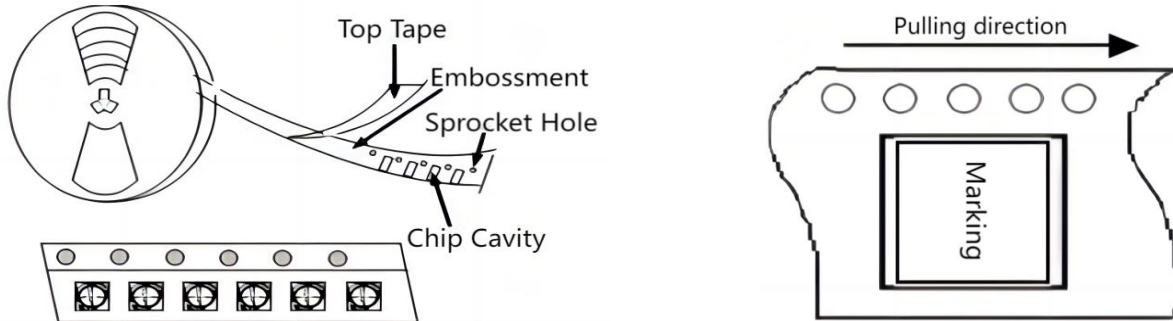
◆ Packaging Information

(1) Tape Packaging Dimensions (Unit: mm)

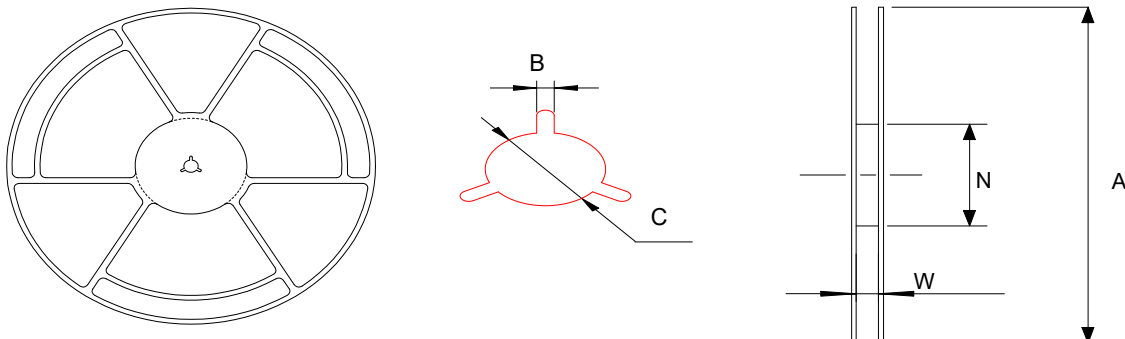


Type	Tape dimensions (mm)										
	W	P	P0	P2	D0	T	A0	B0	K0	E	F
SLO2313H Series	44.0 ±0.3	32.0 ±0.1	4.0 ±0.1	2.0 ±0.1	1.5 ±0.1	0.5 ±0.05	23.0 ±0.1	24.4 ±0.1	13.5 ±0.1	1.75 ±0.1	20.2 ±0.1

Taping Drawings (UNIT:mm)



(2) Reel Dimensions (Unit: mm)



A	W	N	B	C
330±2.0	44.0±0.5	97.0±0.5	2.3±0.3	13.0±0.2

(3) Packaging Quantity(PCS)

Type	Standard Quantity		
	Reel	Inner box	Carton box
SLO2313H Series	80 pcs / reel	1Reel / box (80 pcs)	4 Middle boxes, (320 pcs)

(4) Peel force of top cover tape

The peel speed shall be about 300mm/minute

The peel force of top cover tape shall be between 0.1 to 1.3 N

