

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 3.0MHz;
- 6、RoHS compliant

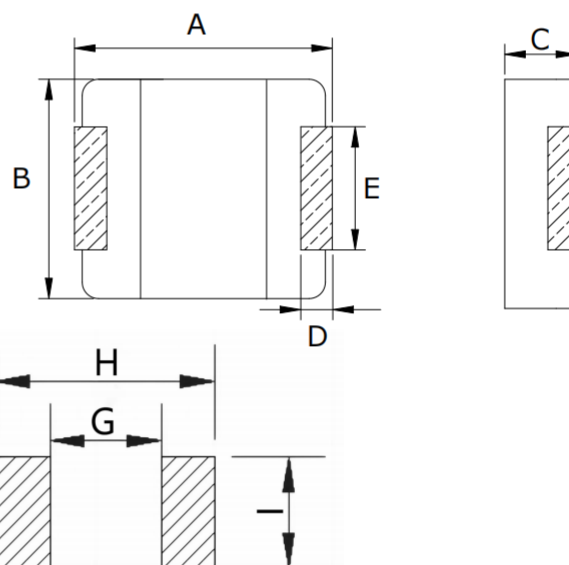
◆ Applications

- 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	1770	C	1R5	M	T	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)

- (1) Series Type
- (2) Dimension: A X C
- (3) Material Code
- (4) Inductance: 1R5=1.5 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	H	I
SLO1770C	17.5±0.35	17.0±0.3	7.0 Max	2.5±0.5	12.0±0.3	11.2 Typ	18.2 Typ	12.8 Typ

◆ Specification

Part Number	INDUCTANCE Lo(μH)	DCR (mΩ)	Test a condition	Irms (A)	Isat 1(A)	Isat 2(A)
		Max.		Typ	Typ	Typ
SLO1770C Series						
SLO1770C1R0MTT	1.0	2.0	100KHz/1V	52.0	60.0	70.0
SLO1770C1R5MTT	1.5	2.5	100KHz/1V	47.0	52.0	65.0
SLO1770C2R2MTT	2.2	2.7	100KHz/1V	43.5	47.0	62.0
SLO1770C3R3MTT	3.3	3.9	100KHz/1V	28.0	45.0	54.0
SLO1770C4R7MTT	4.7	5.5	100KHz/1V	25.0	41.0	50.0
SLO1770C6R8MTT	6.8	9.2	100KHz/1V	19.0	32.0	39.0
SLO1770C8R2MTT	8.2	10.8	100KHz/1V	18.0	25.0	31.0
SLO1770C100MTT	10	13.0	100KHz/1V	16.5	24.0	29.0
SLO1770C150MTT	15	20.5	100KHz/1V	12.5	23.0	27.0
SLO1770C220MTT	22	26.5	100KHz/1V	12.0	18.0	23.0
SLO1770C330MTT	33	44	100KHz/1V	10.7	15.0	20.0
SLO1770C390MTT	39	48	100KHz/1V	9.2	11.0	18.0
SLO1770C470MTT	47	55	100KHz/1V	8.7	9.5	16.0
SLO1770C560MTT	56	62	100KHz/1V	7.8	9.0	15.0
SLO1770C680MTT	68	80	100KHz/1V	7.0	8.0	13.0
SLO1770C101MTT	100	118	100KHz/1V	5.3	6.5	12.0

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 ΔT of 40°C(reference ambient temperature is 25°C)
- 4.Saturation Current (Isat1) will cause L0 to drop approximately 20%.
Saturation Current (Isat2) will cause L0 to drop approximately 30%
- 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 Test

Mechanical Reliability		
Item	Specification and Requirement	Test Method
Solderability	1. No case deformation or change in visual 2. New solder coverage More than 95%	1.Preheat: $155^{\circ}\text{C} \pm 5^{\circ}\text{C}$, $60\text{S} \pm 2\text{S}$ 2.Tin: lead-free. 3.Temperature: $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$, flux $3.0\text{S} \pm 0.5\text{S}$.
Mechanical shock	1. No case deformation or change in visual 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 visual 2. $\Delta L/L_0 \leq \pm 10\%$	1. Reflow: 2times 2. Frequency: $10\text{HZ} \sim 50\text{HZ} \sim 10\text{HZ}$, 20 Min/Cycles 3. Amplitude: $1.52\text{ mm} \pm 10\%$ 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 visual	1. First -55°C for 30 minutes, last 125°C 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 visual	1.Reflow 2 times, 2. $85^{\circ}\text{C} \pm 3^{\circ}\text{C}$, $85\% \pm 3\% \text{RH}$, 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 visual	1. Temperature: $-55 \pm 2^{\circ}\text{C}$ 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 visual	1. Temperature: $+125 \pm 2^{\circ}\text{C}$ 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/60~180sec.

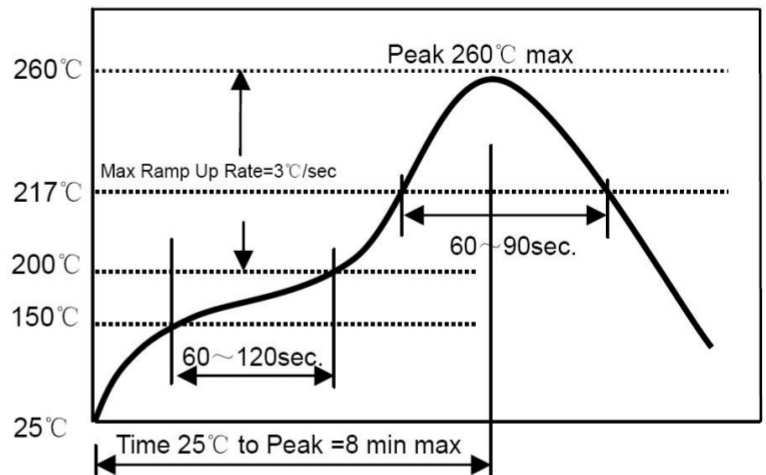
Allowed time above 217°C: 80~120sec.

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

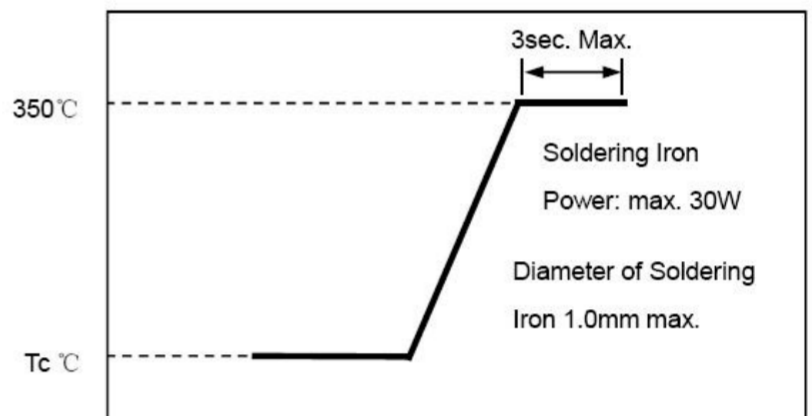
Iron soldering power: Max. 30W

Pre-heating: 150°C/60sec.

Soldering time: 3sec. Max.

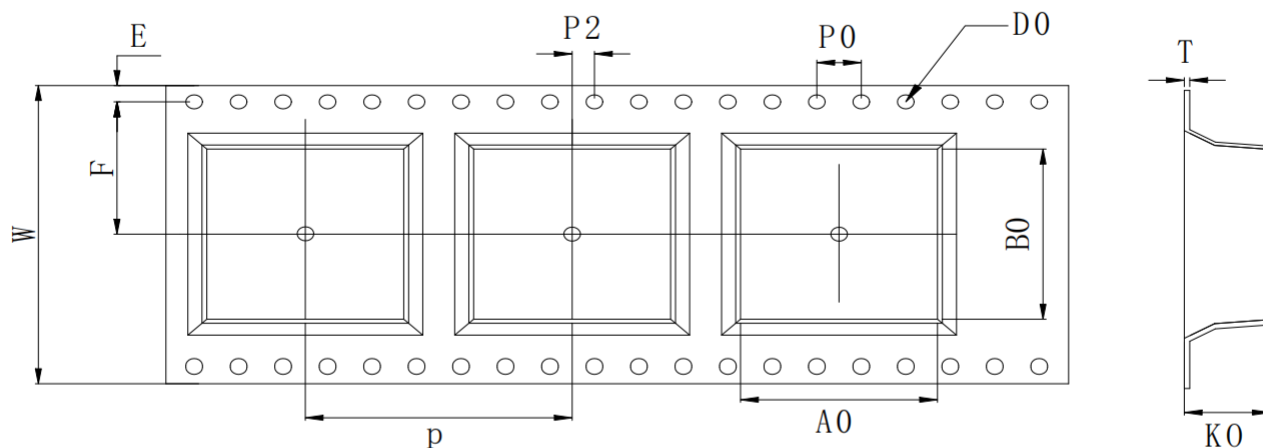
Solder paste: Sn/3.0Ag/0.5Cu

Max.1 times for iron soldering



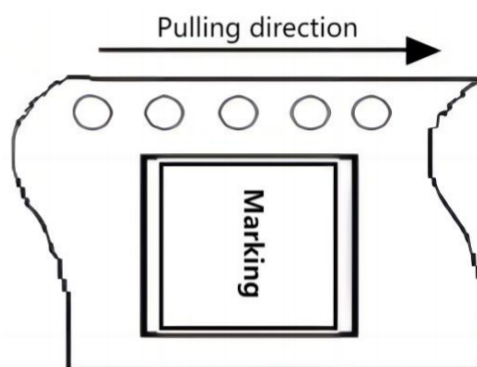
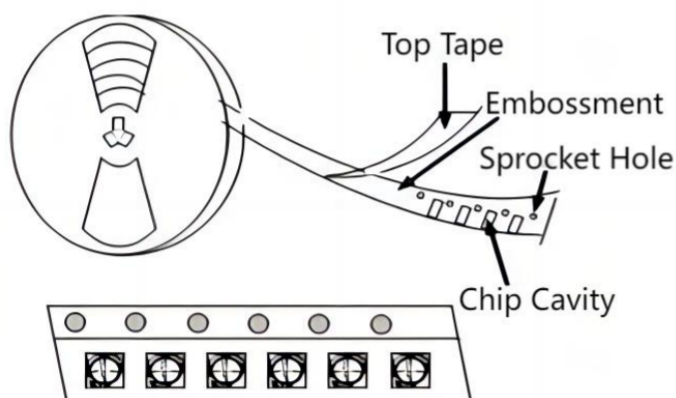
◆ Packaging Information

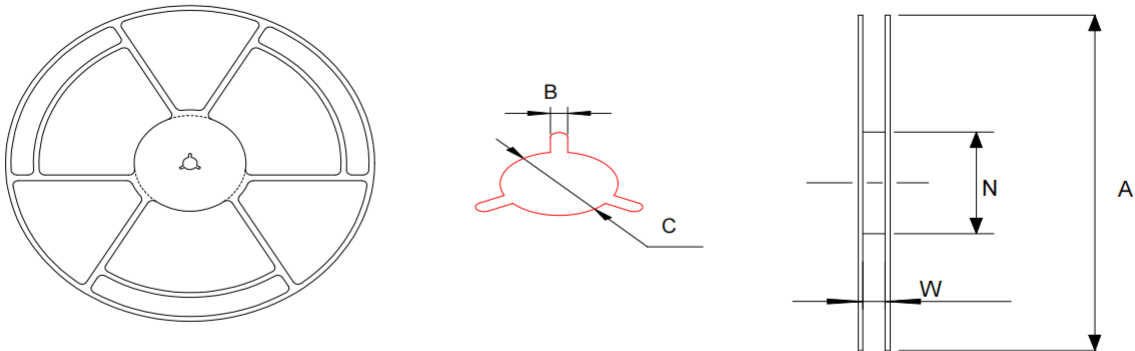
(1) Tape Packaging Dimensions (Unit: mm)



Tape dimensions (mm)										
W	P	P0	P2	D0	T	A0	B0	K0	E	F
32 ±0.3	24 ±0.1	4.0 ±0.1	2.0 ±0.1	1.5 ±0.1	0.5 ±0.05	17.5 ±0.1	18.1 ±0.1	7.3 ±0.1	1.75 ±0.1	14.2 ±0.1

Taping Drawings (UNIT:mm)



(2) Reel Dimensions (Unit: mm)


A	W	N	B	C
330 ± 2.0	32.0 ± 0.5	97 ± 0.5	2.3 ± 0.3	13.0 ± 0.2

(3) Packaging Quantity(PCS)

Standard Quantity		
Reel	Inner box	Carton box
200 pcs / reel	3Reel / box (400 pcs)	4 Middle boxes, (1200 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

