

SMD Type Power Inductor

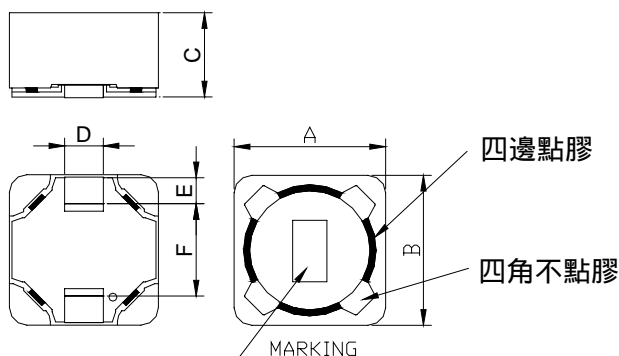
TPRH0704F-SERIES

1. Features

- 1.Magnetic Shielded surface mount inductor with high current rating.
- 2.Low resistance to keep power loss minimum.
- 3.This component is compliant with RoHS legislation and also support lead-free soldering.



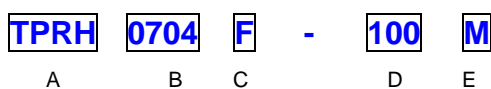
2. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)
TPRH0704F	7.30±0.30	7.30±0.30	4.50 max.	2.00 ref.	1.50 ref.	4.00 ref.

Units: mm

3. Part Numbering



A: Series

B: Dimension

C: Lead free type

D: Inductance

100=10uH

E: Inductance Tolerance

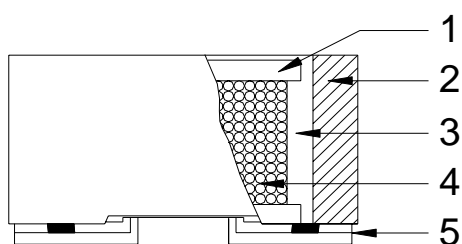
M=±20%

4. Specification

Part Number	Inductance (uH)		DCR () max.	Rated Current (A) max.
	Tolerance	Test Frequency (Hz)		
TPRH0704F-3R2M	3.2±20%	1V/1KHz	0.030	3.50
TPRH0704F-3R9M	3.9±20%	1V/1KHz	0.040	3.10
TPRH0704F-100M	10±20%	1V/1KHz	0.049	1.84
TPRH0704F-120M	12±20%	1V/1KHz	0.058	1.71
TPRH0704F-150M	15±20%	1V/1KHz	0.081	1.47
TPRH0704F-180M	18±20%	1V/1KHz	0.091	1.31
TPRH0704F-220M	22±20%	1V/1KHz	0.11	1.23
TPRH0704F-270M	27±20%	1V/1KHz	0.15	1.12
TPRH0704F-330M	33±20%	1V/1KHz	0.17	0.96
TPRH0704F-390M	39±20%	1V/1KHz	0.23	0.91
TPRH0704F-470M	47±20%	1V/1KHz	0.26	0.88

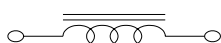
Part Number	Inductance (uH)		DCR () max.	Rated Current (A) max.
	Tolerance	Test Frequency (Hz)		
TPRH0704F-560M	56±20%	1V/1KHz	0.35	0.75
TPRH0704F-680M	68±20%	1V/1KHz	0.38	0.69
TPRH0704F-820M	82±20%	1V/1KHz	0.43	0.61
TPRH0704F-101M	100±20%	1V/1KHz	0.61	0.60
TPRH0704F-121M	120±20%	1V/1KHz	0.66	0.52
TPRH0704F-151M	150±20%	1V/1KHz	0.88	0.46
TPRH0704F-181M	180±20%	1V/1KHz	0.98	0.42
TPRH0704F-221M	220±20%	1V/1KHz	1.17	0.36
TPRH0704F-271M	270±20%	1V/1KHz	1.64	0.34
TPRH0704F-331M	330±20%	1V/1KHz	1.86	0.32
TPRH0704F-391M	390±20%	1V/1KHz	2.85	0.29
TPRH0704F-471M	470±20%	1V/1KHz	3.01	0.26
TPRH0704F-561M	560±20%	1V/1KHz	3.62	0.23
TPRH0704F-681M	680±20%	1V/1KHz	4.63	0.22
TPRH0704F-821M	820±20%	1V/1KHz	5.20	0.20
TPRH0704F-102M	1000±20%	1V/1KHz	6.00	0.18

5. Material List

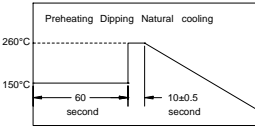
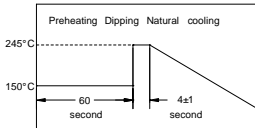


NO	ITEM	MATERIAL
1	CORE	FERRITE CORE (DR TYPE)
2	CORE	FERRITE CORE (RI TYPE)
3	GLUE	G500
4	WIRE	2UEW
5	BASE	LCP BASE

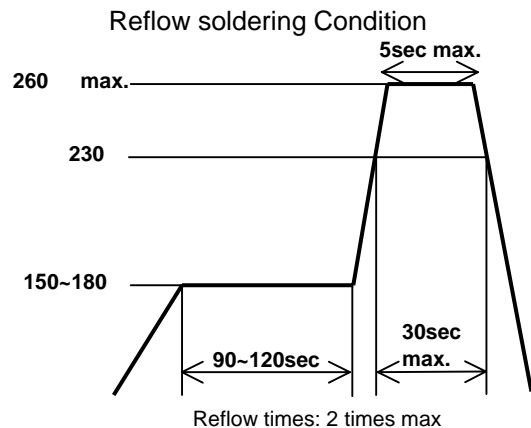
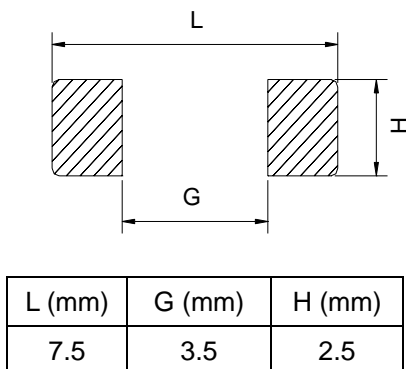
6. Schematic Diagram



7. Reliability and Test Condition

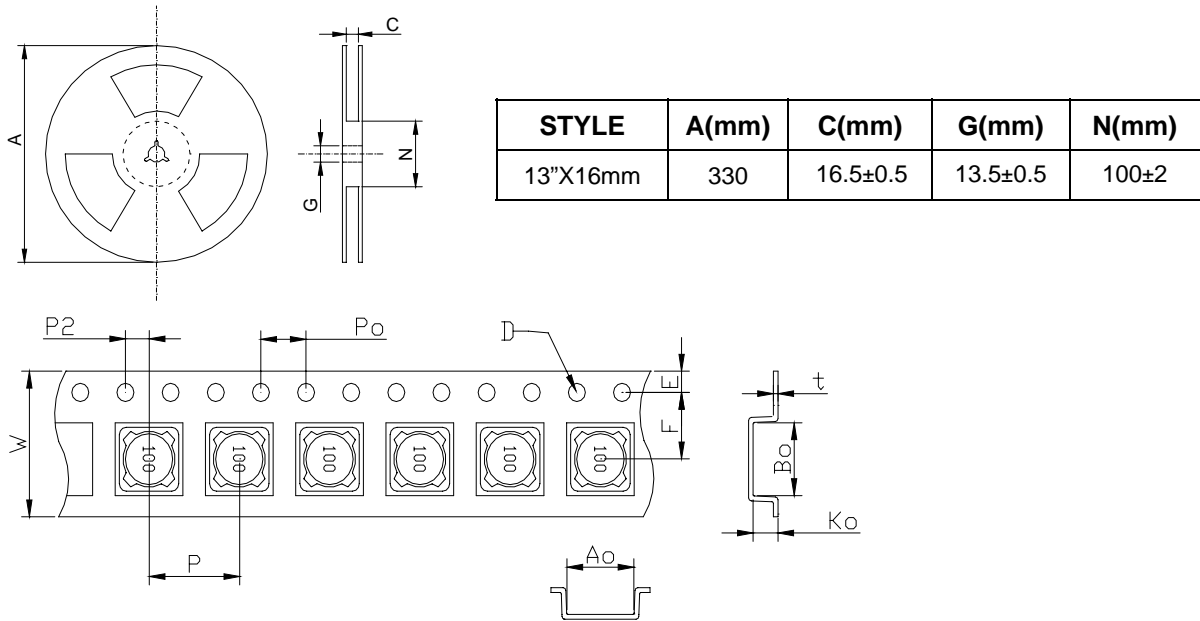
Item	Performance	Test Condition															
Operating Temperature	-40~+85																
Storage temperature	-40~+85																
Rated Current	Base on temp. rise & L/LOA 35%.																
Temperature Rise Test	40 max. (t)																
Solder heat Resistance	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$.	 <p>Preheat:150 ,60sec. Solder: D9930C Solder temperature:260±5 Flux: rosin Dip time:10±0.5sec.</p>															
Solderability	More than 90% of the terminal electrode should be covered with solder.	 <p>Preheat:150±25 ,60sec. Solder: D9930C Solder temperature:245±5 Flux: rosin Dip time:4±1sec.</p>															
Thermal shock	Appearance: no damage. Inductance: within±20%of initial value.	<table border="1" data-bbox="750 869 1050 1108"> <thead> <tr> <th>Phase</th> <th>Temperature()</th> <th>Time(min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±2</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room Temp.</td> <td>15</td> </tr> <tr> <td>3</td> <td>+85±2</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room Temp.</td> <td>15</td> </tr> </tbody> </table> <p>Measured:50 times</p> <p>For TPRH Condition for 1 cycle Step1:-25±2 30±3 min. Step2:Room temperature 15 min. Step3:+85±2 30±3 min. Step4: Room temperature 15 min. Number of cycles:50</p>	Phase	Temperature()	Time(min)	1	-25±2	30±3	2	Room Temp.	15	3	+85±2	30±3	4	Room Temp.	15
Phase	Temperature()	Time(min)															
1	-25±2	30±3															
2	Room Temp.	15															
3	+85±2	30±3															
4	Room Temp.	15															
Humidity Resistance Test	Appearance: no damage. Inductance: within±20%of initial value.	Temperature:40±2 . Applied current:rated current. Duration:500 hrs. Humidity:90~95%															
High Temperature Resistance Test	Appearance: no damage. Inductance: within±20%of initial value.	Temperature:85±2 . Applied current:rated current. Duration:500 hrs.															
Random Vibration Test	Appearance: Cracking, shipping and any other defects harmful to the characteristics should not be allowed. Impedance: within±30%	Frequency: 10-55-10Hz for 1 min. Amplitude: 1.52mm Directions and times: X, Y, Z directions for 2 hours. A period of 2 hours in each of 3 mutually perpendicular directions (Total 6 hours).															

8. Recommended PC Board Pattern



9. Packaging Information

9-1. Reel Dimension & Tape Dimension

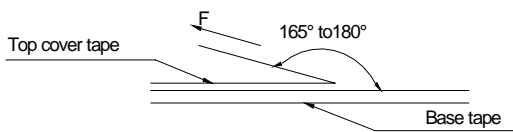


STYLE	W	P	E	F	P2	D	Po	Ao	Bo	Ko	t
16mm	16±0.3	12±0.1	1.75±0.1	7.5±0.1	2±0.1	1.5±0.25	4±0.1	7.8±0.1	7.8±0.1	4.6±0.1	0.35±0.05

9-2. Packaging Quantity

SERIES	1 REEL
	Q'TY(PCS)
TPRH0704F	1000

9-3. Tearing Off Force



The force for tearing off cover tape is 10 to 125 grams in the arrow direction under the following conditions.

Room Temp. ()	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5-35	45-85	860-1060	300

Application Notice

Storage Conditions
To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: Less than 40 and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.