

Drum Core Surface Mount Unshielded Power Inductors

◆ Features

1. Excellent solderability and high heat resistance.
2. Excellent terminal strength construction.
3. Packed in embossed carrier tape and can be used by automatic mounting machine.

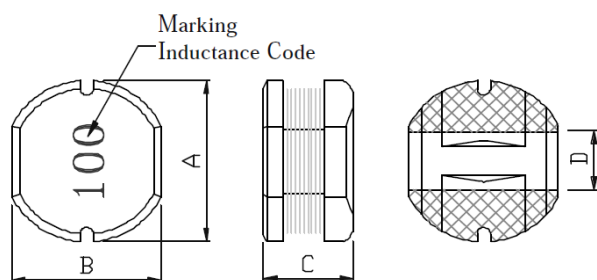


◆ Applications

Power supply for VCR,OA equipment ,LCD television set notebook, DC to DC converters, DC to AC inverters etc.



◆ Shape & Dimensions



◆ Lead Free Part Numbering

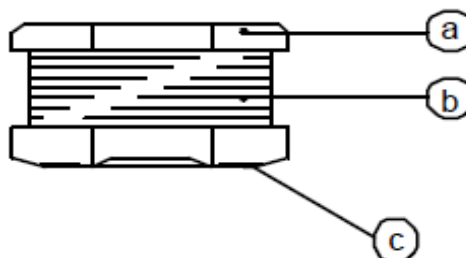
INCD 0504 F 100 M T
(1) (2) (3) (4) (5) (6)

- (1) Series Type
- (2) Dimension: A X C
- (3) Material: ferrite
- (4) Inductance: 2R2=2.2 μ H; 100=10 μ H; 101=100 μ H
- (5) Inductance Tolerance: K= $\pm$ 10%, M= $\pm$ 20%
- (6) Packaging: packed in embossed carrier tape

Series	A (mm)	B (mm)	C (mm)	D (mm)
INCD0504	5.8 $\pm$ 0.3	5.2 $\pm$ 0.3	4.5 $\pm$ 0.3	1.5 Typ.

◆ Material

Item	Material
a. Core	Ferrite DR Core
b. Wire	Enamelled Copper wire
c. Terminal	Ag+Sn+SnPb



◆ Specification

Part Number 料号	Inductance(μH) 电感量	Test Freq 测试频率	DCR(Ω) Typ. 直流电阻	IDC (A) max. 额定电流
INCD0504 Series				
INCD0504F1R0MT	1.00±20%	100KHz/0.25V	0.015	6.10
INCD0504F1R2MT	1.20±20%	100KHz/0.25V	0.020	5.70
INCD0504F1R5MT	1.50±20%	100KHz/0.25V	0.025	5.10
INCD0504F1R8MT	1.80±20%	100KHz/0.25V	0.030	4.90
INCD0504F2R2MT	2.20±20%	100KHz/0.25V	0.035	4.80
INCD0504F3R3MT	3.30±20%	100KHz/0.25V	0.045	4.20
INCD0504F4R7MT	4.70±20%	100KHz/0.25V	0.060	3.30
INCD0504F5R6MT	5.60±20%	100KHz/0.25V	0.070	3.10
INCD0504F6R8MT	6.80±20%	100KHz/0.25V	0.080	3.00
INCD0504F8R2MT	8.20±20%	100KHz/0.25V	0.090	2.70
INCD0504F100KT	10.0±10%	100KHz/0.25V	0.100	2.50
INCD0504F120KT	12.0±10%	100KHz/0.25V	0.120	2.30
INCD0504F150KT	15.0±10%	100KHz/0.25V	0.140	2.20
INCD0504F180KT	18.0±10%	100KHz/0.25V	0.150	1.83
INCD0504F220KT	22.0±10%	100KHz/0.25V	0.180	1.40
INCD0504F270KT	27.0±10%	100KHz/0.25V	0.200	1.37
INCD0504F330KT	33.0±10%	100KHz/0.25V	0.230	1.28
INCD0504F390KT	39.0±10%	100KHz/0.25V	0.320	0.80
INCD0504F470KT	47.0±10%	100KHz/0.25V	0.370	0.72
INCD0504F560KT	56.0±10%	100KHz/0.25V	0.420	0.68
INCD0504F680KT	68.0±10%	100KHz/0.25V	0.460	0.61
INCD0504F820KT	82.0±10%	100KHz/0.25V	0.600	0.58
INCD0504F101KT	100.0±10%	100KHz/0.25V	0.700	0.52
INCD0504F121KT	120.0±10%	100KHz/0.25V	0.930	0.48
INCD0504F151KT	150.0±10%	100KHz/0.25V	1.100	0.40
INCD0504F181KT	180.0±10%	100KHz/0.25V	1.380	0.38
INCD0504F221KT	220.0±10%	100KHz/0.25V	1.570	0.35
INCD0504F271KT	270.0±10%	100KHz/0.25V	1.650	0.32
INCD0504F331KT	330.0±10%	100KHz/0.25V	1.700	0.28
INCD0504F391KT	390.0±10%	100KHz/0.25V	1.800	0.26
INCD0504F471KT	470.0±10%	100KHz/0.25V	2.300	0.23
INCD0504F561KT	560.0±10%	100KHz/0.25V	2.500	0.20
INCD0504F681KT	680.0±10%	100KHz/0.25V	3.000	0.19
INCD0504F821KT	820.0±10%	100KHz/0.25V	4.500	0.16
INCD0504F102KT	1000.0±10%	100KHz/0.25V	4.800	0.14

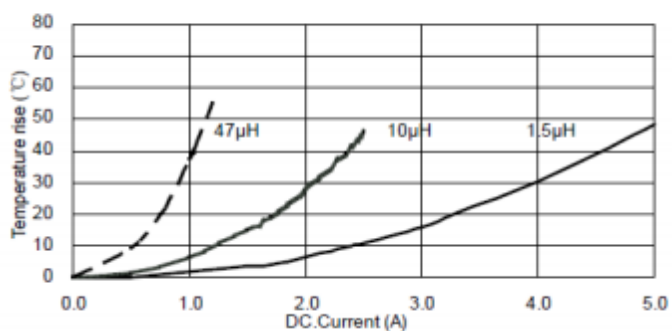
◆ Note

- (1) Maximum allowable DC current is that which causes a 10% inductance reduction from the initial value, or coil temperature to rise by 40°C, whichever is smaller. (Reference ambient temperature 20°C).
- (2) Operating temperature -55°C ~ +125°C.
- (3) All test data is referenced to 25°C ambient.

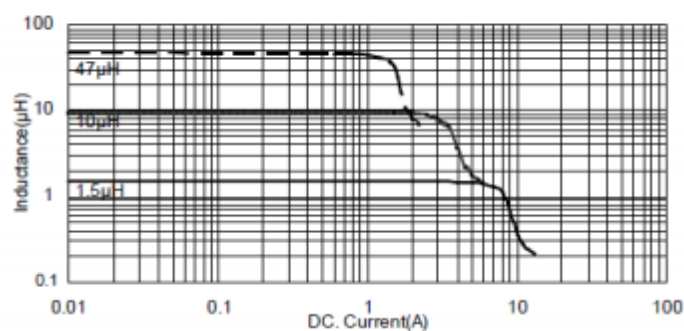
◆ TYPICAL ELECTRICAL CHARACTERISTICS

INCD0504F Series

Temperature vs. DC Current Characteristics

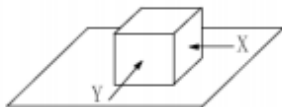
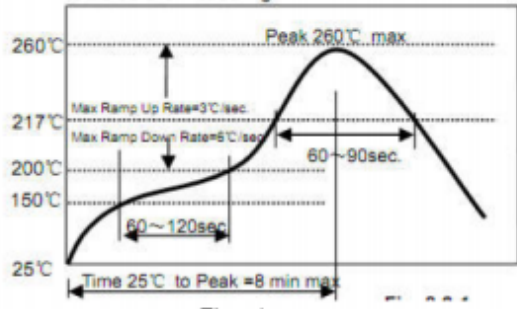
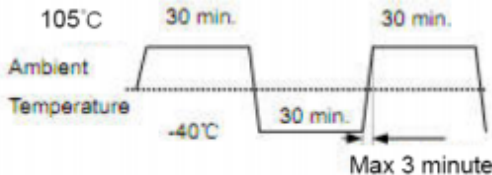


Inductance vs. DC Current Characteristics



◆ Reliability

test

Items	Requirements	Test Methods and Remarks
A. Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig.7.1-1	1) Solder the inductor to the testing jig (glass epoxy board shown in Fig.7.1-1) using eutectic solder. Then apply a force in the direction of the arrow. 2) 10N force. 3) Keep time: 5±2s
B. High Temperature	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :125+/-5℃ 2) Duration : 96 ±4 Hours 3) Recovery : then measured at room ambient temperature after placing 24 hours.
C. Low Temperature	1. No visible mechanical damage 2. Inductance change: Within ±10%	1) Temperature and time: -40±5℃ 2) Duration: 96±4 hours 3) TRecovery : then measured at room ambient temperature after placing 24 hours.
D. Vibration test	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Frequency range:10HZ~55HZ~10HZ 2) Amplitude:1.5mm p-p 3) Direction:X,Y,Z 4) Time:1 minute/cycle,2hours per axis
E. High Temperature Storage Tested	1. No visible mechanical damage. 2. Inductance change: Within ±10%	1) Storage Temperature :60+/-2℃ 2) Relative Humidity :90-95% RH 3) Duration : 96 ±4 Hours 4) Recovery : then measured at room ambient temperature after placing 24 hours.
F. Resistance to Soldering Heat	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig. 1	1) Re-flowing Profile: Please refer to Fig. 1 2) Test board thickness: 1.0mm 3) Test board material: glass epoxy resin 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring
G. Thermal Shock	1. No visible mechanical damage. 2. Inductance change: Within ±10%  Fig. 2	1) Temperature and time: -40±3℃ for 30±3 min→105℃ for 30±3min, please refer to Fig. 2. 2) Transforming interval: Max, 3 minute 3) Tested cycle: 100 cycles 4) The chip shall be stabilized at normal condition for 1~2 hours before measuring