

SCOPE :

This specification applies to the current type Radial Leaded Inductor
for MCD-1012-SERIES

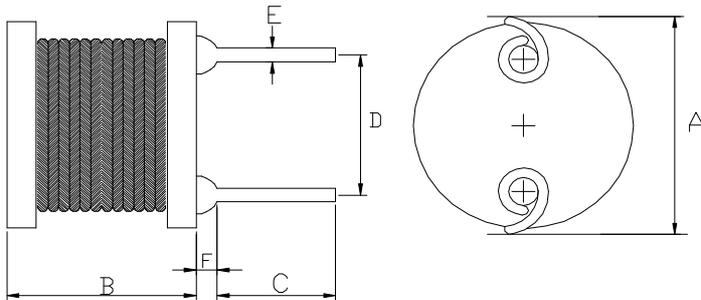
PRODUCT IDENTIFICATION

MCD - 1012 - 101 J

① ② ③ ④

- ① Product Code
- ② Dimensions Code
- ③ Inductance Code
- ④ Tolerance Code

(1) SHAPES AND DIMENSIONS



| | |
|------------------------------|----|
| A: 12.0 Max. | mm |
| B: 12.5 Max. | mm |
| C: 15±2.0 | mm |
| D: 5.0±0.5 | mm |
| E: $\varnothing 0.8 \pm 0.1$ | mm |
| F: 2.5 Max. | mm |

(2) ELECTRICAL SPECIFICATIONS

SEE TABLE 1

TEST INSTRUMENTS

L : HP 4284A PRECISION LCR METER (or equivalent)

RDC : CHROMA MODEL 16502 MILLIOHMMETER (or equivalent)

(3) CHARACTERISTICS

- (3)-1 Ambient temperature +60°C Max.
- (3)-2 Operate temperature range -40°C ~ +125°C
(Including self temp. rise)
- (3)-3 Storage temperature range -40°C ~ +125°C



MAG.LAYERS

TABLE 1

| MAGLAYERS PT/NO. | Inductance L(μ H) | Percent Tolerance | Test Frequency | Resistance RDC(Ω)Max. | Rated DC Current | |
|---------------------|---------------------------|----------------------|-------------------|-----------------------------------|------------------|---------|
| | | | | | IDC1(A) | IDC2(A) |
| MCD-1012-4R7□ | 4.7 | M | 100kHz/0.25V | 15.0m | 9.0 | 6.40 |
| MCD-1012-100□ | 10 | K,M | 100kHz/0.25V | 21.0m | 7.0 | 5.50 |
| MCD-1012-150□ | 15 | K,M | 100kHz/0.25V | 31.2m | 5.0 | 4.20 |
| MCD-1012-220□ | 22 | K,M | 100kHz/0.25V | 44.1m | 4.5 | 3.80 |
| MCD-1012-330□ | 33 | K,M | 100kHz/0.25V | 66.5m | 3.5 | 3.10 |
| MCD-1012-101□ | 100 | J,K | 100KHz/0.25V | 0.15 | 2.2 | 2.00 |
| MCD-1012-151□ | 150 | K,M | 100KHz/0.25V | 0.21 | 1.9 | 1.80 |
| MCD-1012-471□ | 470 | K,M | 100KHz/0.25V | 0.70 | 1.0 | 0.80 |
| MCD-1012-681□ | 680 | K,M | 100KHz/0.25V | 0.96 | 0.8 | 0.70 |
| MCD-1012-821□ | 820 | K,M | 100KHz/0.25V | 1.20 | 0.75 | 0.65 |
| MCD-1012-102□ | 1000 | J,K,M | 100KHz/0.25V | 1.50 | 0.65 | 0.60 |

※ □ specify the inductance tolerance, J(\pm 5%), K(\pm 10%), M(\pm 20%)

※ IDC1 : Based on inductance change (Δ L/Lo : drop 10% Max.) @ambient temperature 25°C

IDC2 : Based on temperature rise (Δ T : 40°C TYP.)

Rated DC Current : The less value which is IDC1 or IDC2.



(4) RELIABILITY TEST METHOD MECHANICAL

| NO. | ITEMS | SPECIFICATIONS | CONDITIONS |
|-----|--------------------------------|--|---|
| 1 | Solderability test | More than 90% of the terminal electrode should be covered with solder. | Dipping: 245 ± 5 °C, 3 ± 1 seconds |
| 2 | lead tensile strength test | 1.0 Kg MIN. | The lead of product is pulled with a load of 1.0kg minimum until lead breakdown. The tensile force shall be recorded. |
| 3 | Vibration test | $\Delta L/L \leq \pm 7\%$ Visual:OK | The product is fixed into the vibration with amplitude of 1.52m/m at a frequency of 10~55Hz sweeping for 1min. The vibration is done at X,Y, Z direction respectively for 2 houes, totally 6 hours. |
| 4 | Soldering heat resistance test | Visual:OK Circuit:OK | The leads of product are dipped into a solder pot of 260±5°C for a duration of 10±1sec. Nothing particular on visual and open circuitry as a result of ore testing. |

ENVIRONMENTAL

| NO. | ITEMS | SPECIFICATIONS | CONDITIONS |
|-----|--------------------------|---------------------------|--|
| 1 | Humidity endurance test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of 40±2°C, 90~95%RH for 96 hours. Measurement is done after the reaovery of 4~24 hours. |
| 2 | High temp endurance test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of 80±2°C, for 72 hours. Measurement is done after recovery of 4~24 hours. |
| 3 | Low temp test | $\Delta L/L \leq \pm 5\%$ | The product is placed in a chamber of -40±2°C, for 96 hours. Measurement is done after recovery of 4~24 hours. |
| 4 | Thermal shock test | $\Delta L/L \leq \pm 5\%$ | The specimens are placed in a chamber and the temp is then lowered to -20±2°C for one hour. The temp will raised to +80±2°C for one hour. This constitutes one cycle. Ten cycles of such testing shall be completed. Measurement is made after recovery for 4~24 hours from the completion of testing. |

(5) PACKAGE SPECIFICATION (mm)

