

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

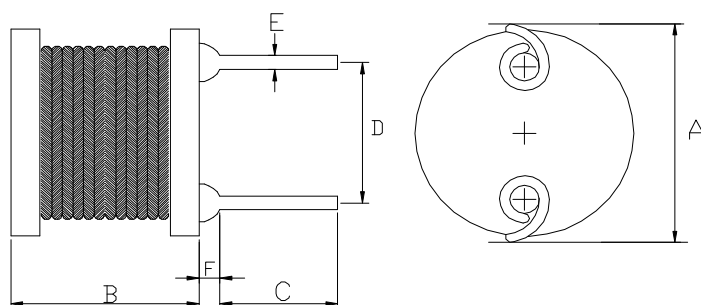
① Product Code

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: $\phi 0.8 \pm 0.1$	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(μH)	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(±5%), K(±10%), M(±20%)

※ IDC1 : Based on inductance change ($\Delta L/L_0$: drop 10% Max.) @ambient temperature 25℃

IDC2 : Based on temperature rise (ΔT : 40℃ 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: $245 \pm 5^{\circ}\text{C}$, 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 hours, totally 6 hours.
4	Soldering heat resistance test	Visual:OK Circuit:OK	The leads of product are dipped into a solder pot of $260 \pm 5^{\circ}\text{C}$ for a duration of 10 ± 1 sec. 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 $40 \pm 2^{\circ}\text{C}$, 90~95%RH for 96 hours. Measurement is done after the recovery of 4~24 hours.
2	High temp endurance test	$\Delta L/L \leq \pm 5\%$	The product is placed in a chamber of $80 \pm 2^{\circ}\text{C}$, 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 $-40 \pm 2^{\circ}\text{C}$, 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 $-20 \pm 2^{\circ}\text{C}$ for one hour. The temp will raised to $+80 \pm 2^{\circ}\text{C}$ 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)

