Mag Layers USA, INC

Specification Sheet

P/N : MCM-0905-102Y-E-RU

Products:

Molded Power Chokes

Multilayer Chip Inductors

Lan Transformer

RF Passive / Antennas

Automotive

Certifications:

ISO9001

IATF16949

ISO14001

QC080000

US Office

5406 Bolsa Ave.,
Huntington Beach, CA 92649
(714) 898-8377

Contact Us

www.maglayersusa.com
info@maglayersusa.com

REVISIONS

REV.	Description	Date	Approvaled by	Checked by	Checked by	Prepared by
00	Issue	2014.05.14	Vincent	Marco	Sara	Brian

Ⅰ. SCOPE：

This specification applies to the Pb Free high current type SMD Common mode filter for MCM-0905-SERIES-□-□□

PRODUCT INDENTIFICATION

MCM - 0905 - 102 Y - E - □□-RU

① ② ③ ④ ⑤

① Product Code

② Dimensions Code

③ Inductance Code

④ Tolerance Code

⑤ Inner Control Code

Ⅱ. INDEX：

Unless otherwise specified, test condition should be Temp.＝20±5℃,

Humidity＝35～85%

But if needed, then test condition should be Temp.＝20±2℃,

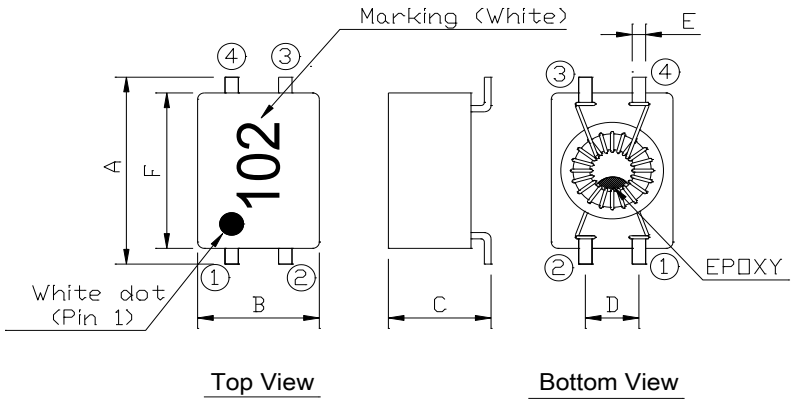
Humidity＝65±5%

9.SHELF LIFE

Storage Condition:The temperature should be within-40℃ ~105℃ and humidity should be less than 75%RH. The product should be used within 12 months from the time of delivery.

In addition, suggest to use product within 6 months from the time of delivery.

(1) SHAPES AND DIMENSIONS



A:	8.9±0.5	mm
B:	5.4±0.3	mm
C:	5.0 Max.	mm
D:	2.54±0.3	mm
E:	0.5 Typ.	mm
F:	7.3±0.3	mm

(2) ELECTRICAL SPECIFICATIONS

SEE TABLE 1

TEST INSTRUMENTS

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

RDC : CHROMA MODEL 16502 MILLIOHMMETER (or equivalent)

I.R : CHROMA MODEL 19073 AC/DC/IR HIPOT TESTER (or equivalent)

(3) CHARACTERISTICS

(3)-1 Operate temperature range ..... －40℃～＋125℃

(Including self temp. rise)

(3)-2 Storage temperature range ..... －40℃～＋125℃

MATERIALS

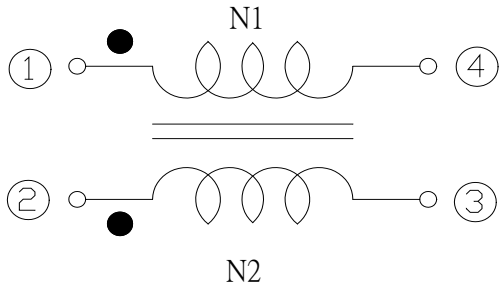
NO.	ITEM	DESCRIPTION & TYPE	UL NO.	MANUFACTURER
1	CORE	FERRITE		ACME ELECTRONICS CORPORATION
				ENCORE ELECTRONICS TECHNOLOGY CO., LTD.
2	BASE	PM9630		YUAN SHING ELECTRONIC INC.
				SHUO CHENG ELECTRONICS CO., LTD.
3	WIRE	POLYURETHANE ENAMELLED	E84081	PACIFIC ELECTRICAL WIRE & CABLE CO., LTD.
		COPPER WIRE	E258243	ELEKTRISOLA CO., LTD.
4	SOLDER	Sn99.3%/Cu0.7%		SHENMAO TECHNOLOGY INC.OR EQUIV.
				OR EQUIV.
5	INK	BON MARQUE INK		T&K TOKA.
				OR EQUIV.

TABLE 1

MAGLAYERS PT/NO.	Inductance L(uH) (1-4),(2-3) at 100KHz/0.1V	Resistance RDC(Ω) Max. (1-4),(2-3)	Rated Current (A) Max.	Insulation Resistance (MΩ) Min.
MCM-0905-102Y-E-□ □-RU	1000 +50%/-30%	0.3	0.7	100

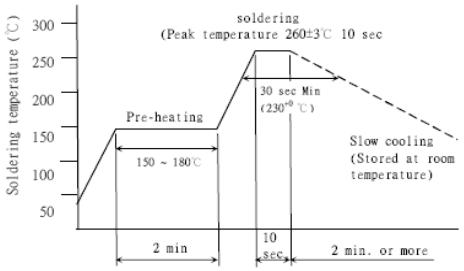
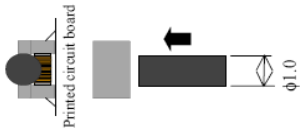
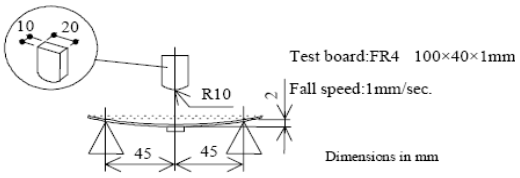
Rated Current ： Based on temperature rise (△T： 40℃ Typ.)

CIRCUIT DIAGRAM



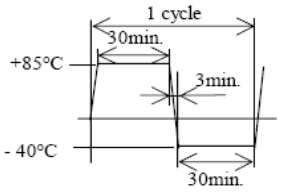
(4) RELIABILITY TEST METHOD

MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS
Solder ability	The product shall be connected to the test circuit board by the fillet (the height is 0.2mm).	Apply cream solder to the printed circuit board . Refer to clause 8 for Reflow profile.
Resistance to Soldering heat (reflow soldering)	There shall be no damage or problems.	Temperature profile of reflow soldering  The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric eric conditions for 1 hour, after which the measurement shall be made.
Terminal strength	The terminal electrode and the ferrite must not damaged.	Solder a chip to test substrate , and then laterally apply a load 9.8N in the arrow direction. 
Strength on PC board bending	The terminal electrode and the ferrite must not damaged.	Solder a chip to test substrate and then apply a load. 
High temperature resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : +85±2℃ Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours

(4) RELIABILITY TEST METHOD

MECHANICAL

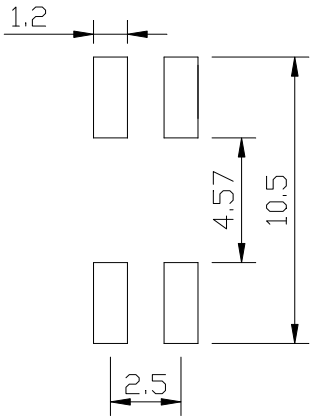
TEST ITEM	SPECIFICATION	TEST DETAILS
Humidity resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : +60±2℃ , Humidity : 90 to 95 %RH Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours
Thermal shock	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	 Testing time : 100 cycle
Low temperature storage	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Measurement : After placing for 24 hours min. Temperature : -40±2℃ Testing time : 500±12 hours
Vibration	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test circuit board,the test shall be done. Frequency : 10 to 55 Hz Amplitude : 1.52 mm Dimension and times : X ,Y and Z directions for 2 hours each.
Solderability	New solder More than 75%	Flux (rosin, isopropyl alcohol{JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130～150℃ and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2℃. More than 75% of the electrode sections shall be couered with new solder smoothly when the sample is taken out of the solder bath.

(5) LAND DIMENSION (Ref.)

PCB: GLASS EPOXY　t＝1.6mm

(5)-1 LAND PATTERN DIMENSIONS

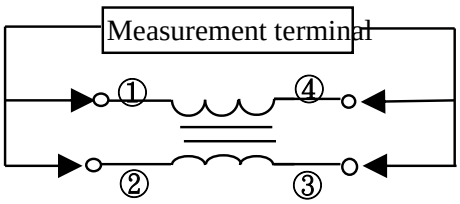
(STANDARD PATTERN)



(6) TEST EQUIPMENT

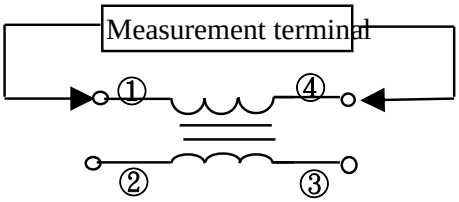
(6)-1 Inductance

Measured by using HP4291B RF Impedance Analyzer.



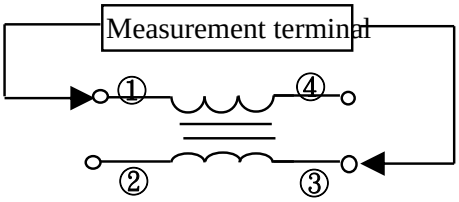
(6)-2 DC Resistance

Measured by using Chroma 16502 milliohm meter.



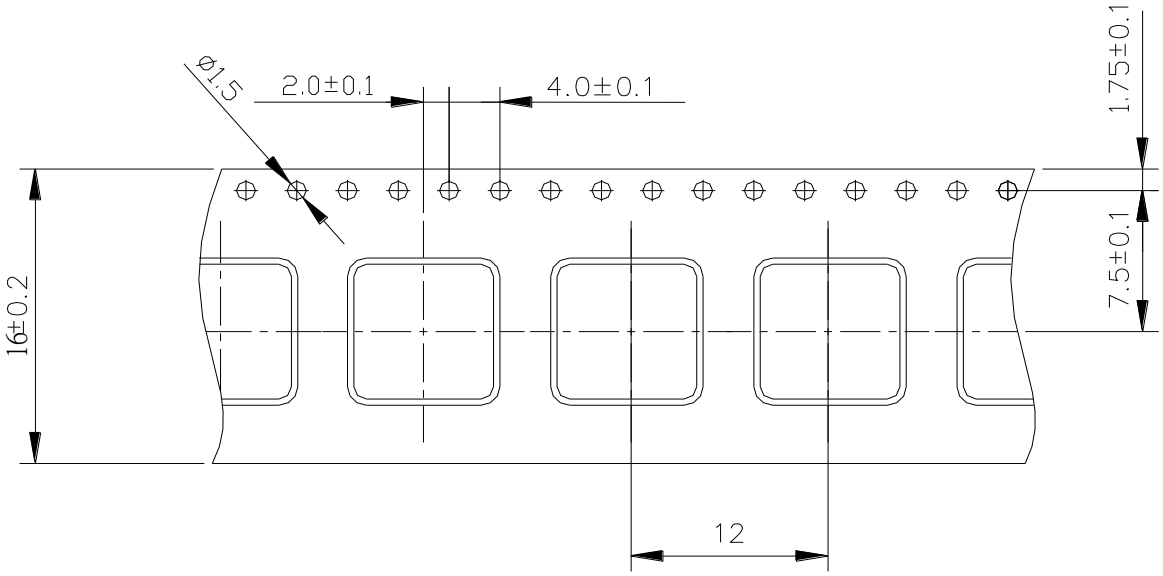
(6)-3 Insulation Resistance

Measured by using Chroma 19073

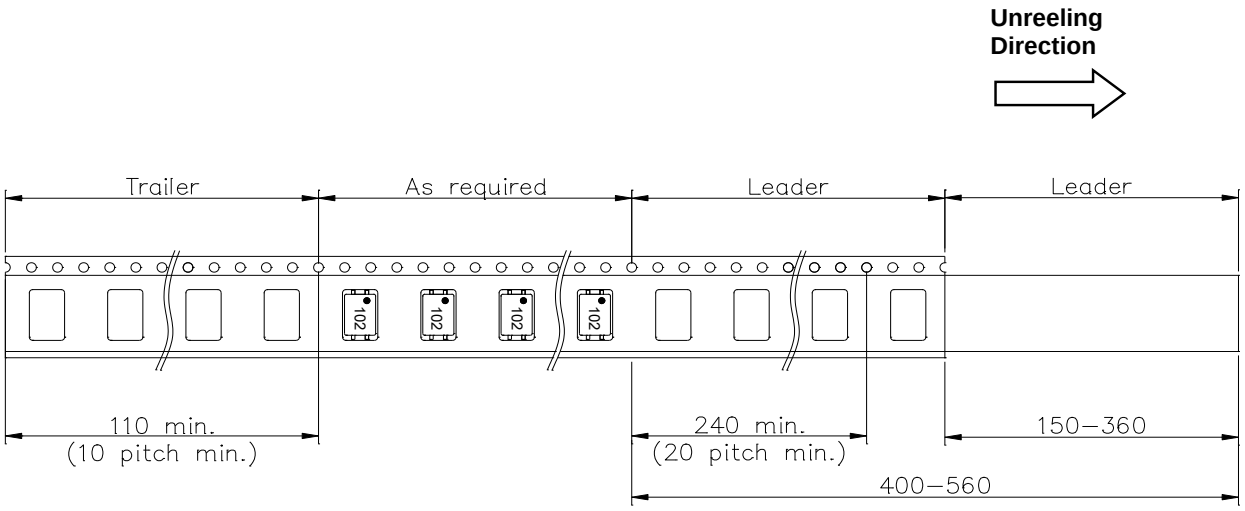


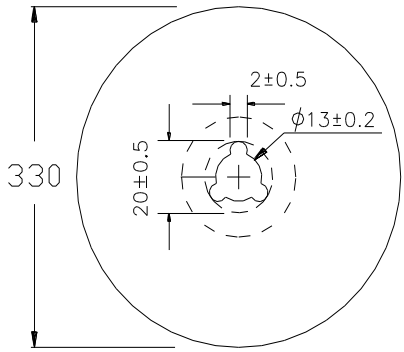
(6) PACKAGING

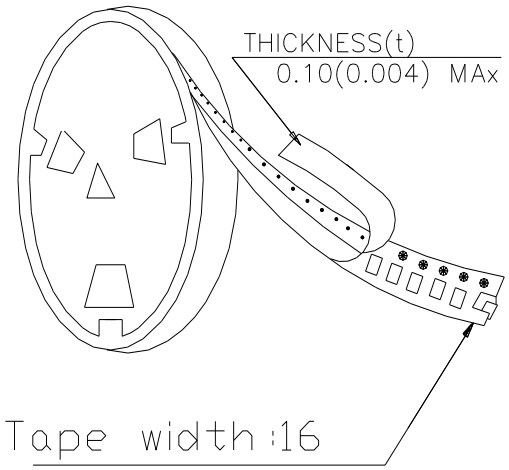
(6)-1 CARRIER TAPE DIMENSIONS (mm)



(6)-2 TAPING DIMENSIONS (mm)







1000 pcs/Reel

The products are packaged so that no damage will be sustained.

TYPICAL ELECTRICAL CHARACTERISTICS