SCOPE：

This specification applies to the Pb Free high current type SMD inductors for

MSPM-3012-SERIES

PRODUCT INDENTIFICATION

MSPM - 3012 - 2R2 □

① ② ③ ④

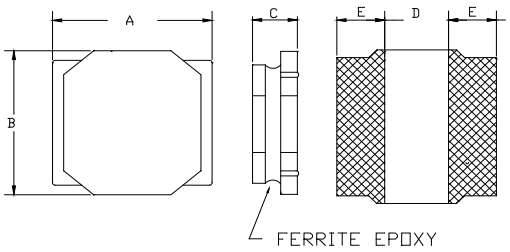
① Product Code

② Dimensions Code

③ Inductance Code

④ Tolerance Code

(1) SHAPES AND DIMENSIONS



A: 3.0±0.2 mm

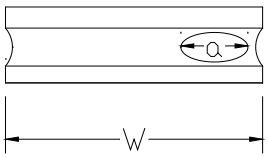
B: 3.0±0.2 mm

C: 1.3 Max. mm

D: 1.0±0.2 mm

E: 1.0±0.2 mm

Void Appearance Tolerance Limit



a<=W/2 OK

a>W/2 NG

(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 Operate temperature range ..... －40℃～＋125℃

(Including self temp. rise)

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

TABLE 1

MAGLAYERS PT/NO.	Inductance L(μH)	Percent Tolerance	L Test Frequency	Resistance RDC(Ω)Max.	Rated DC Current	
					Isat(A)	Irms(A)
MSPM-3012-R30□	0.3	N	1MHz/0.25V	35m	5.00	3.50
MSPM-3012-2R2□	2.2	M,N	1MHz/0.25V	0.16	1.80	1.10
MSPM-3012-3R3□	3.3	M,N	1MHz/0.25V	0.20	1.60	1.00

※ □ specify the inductance tolerance ,M(±20%) ,N(±30%)

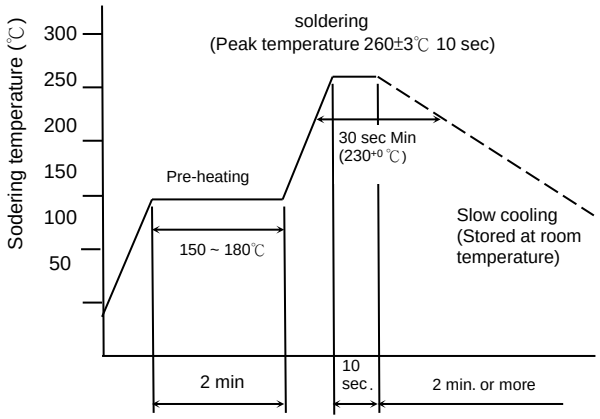
※ Isat： Based on inductance change (△L/Lo：drop 35% Max.) @ ambient temp. 25℃

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

Rated DC Current： The less value which is Isat or Irms.

(4) RELIABILITY TEST METHOD

Mechanical performance test

Item	Specification	Test method
Bending	Change from an initial value Inductance: within ± 10%	Apply pressure gradually in the direction of the arrow at a rate of about 0.5mm/s until bent depth reaches 2mm and hold for 30 sec. Boad : 40*100mm ， thickness: 1mm
Adhesion strength	Change from an initial value Inductance: within ± 10%	A static load using a R0.5 pressing tool shall be applied to the body of the specimen in the direction of the arrow and shall be hold for 60±5 sec. Mesure after removing pressure.
Vibration	Change from an initial value Inductance: within ± 10%	The specimen shall be subjected to a vibration of 1.5mm amplitude, sweep frequency 10~55Hz(10Hz to 55Hz to 10Hz in aperiod of one minute) for 2hr in each of 3(X,Y,Z) axes.
Mechanical shock	Change from an initial value Inductance: within ± 10%	Dropped onto printed circuit board from 100cm height three times in x, y, z directions. The terminals shall be protected.
Solderability	New solder shall cover 90% minimum of the surface immersed.	Electrode shall be immersed in flux at room temperature and then shall be immersed in solder bath after preheat. Preheat 160±10℃， 90 sec Soldering 245±5℃ ，3±1 sec
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 conditions for 1 hour, after which the measurement shall be made.
Resistance to soldering heat	Change from an initial value Inductance: within ± 10%	Reflow soldering method Preheat 150~180℃，90~120sec Peak temp. 260℃(230℃ over 30~40 Sec.) The specimen shall be subjected to the reflow process under the above condition 2 times. Test board shall be 0.8mm thick. Base material shall be glass epoxy resin.

(4) RELIABILITY TEST METHOD

Climatic test

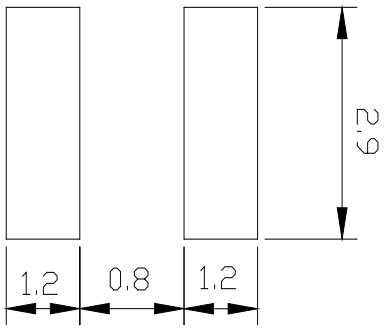
Item	Specification	Test method
Low temperature	Change from an initial value Inductance: within ± 10%	The specimen shall be stored at a temperature of -40±3℃ for 96hr. then it shall be stabilized under standard atmospheric conditions for 1hr before measurement. measurement shall be made within 1hr.
Dry heat	Change from an initial value Inductance: within ± 10%	The specimen shall be stored at a temperature of 85±3℃ for 96hr. then it shall be stabilized under standard atmospheric conditions for 1hr before measurement. measurement shall be made within 1hr.
Dump heat	Change from an initial value Inductance: within ± 10%	The specimen shall be stored at a temperature of 60±3℃ with relative humidity of 90~95% for 96h. Then it shall be stabilized under standard atmospheric conditions for 1hr before measurement. Measurement shall be made within 1hr.
Temperature cycle	Change from an initial value Inductance: within ± 10%	The specimen shall be subjected to 10 continuous cycles of temperature change of -40℃ for 30 min and 85℃ for 30 min with the transit period of 2 min or less. Then it shall be stabilized under standard atmospheric conditions for 1hr before measurement. Me

(5) LAND DIMENSION (Ref.)

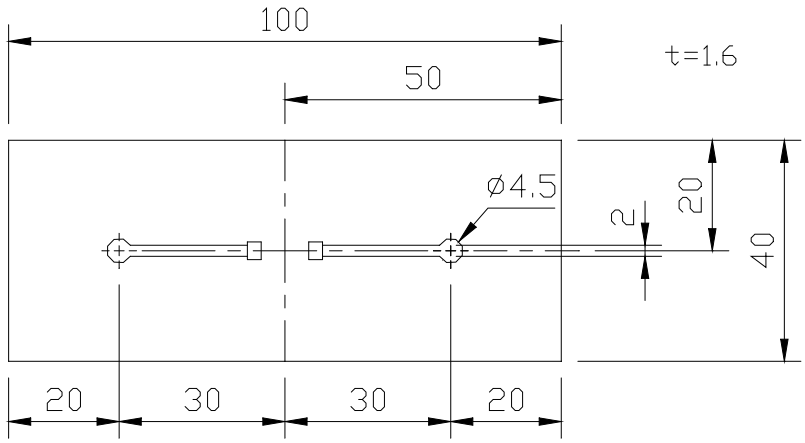
PCB: GLASS EPOXY　t＝1.6mm

(5)-1 LAND PATTERN DIMENSIONS

(STANDARD PATTERN)　　unit：mm

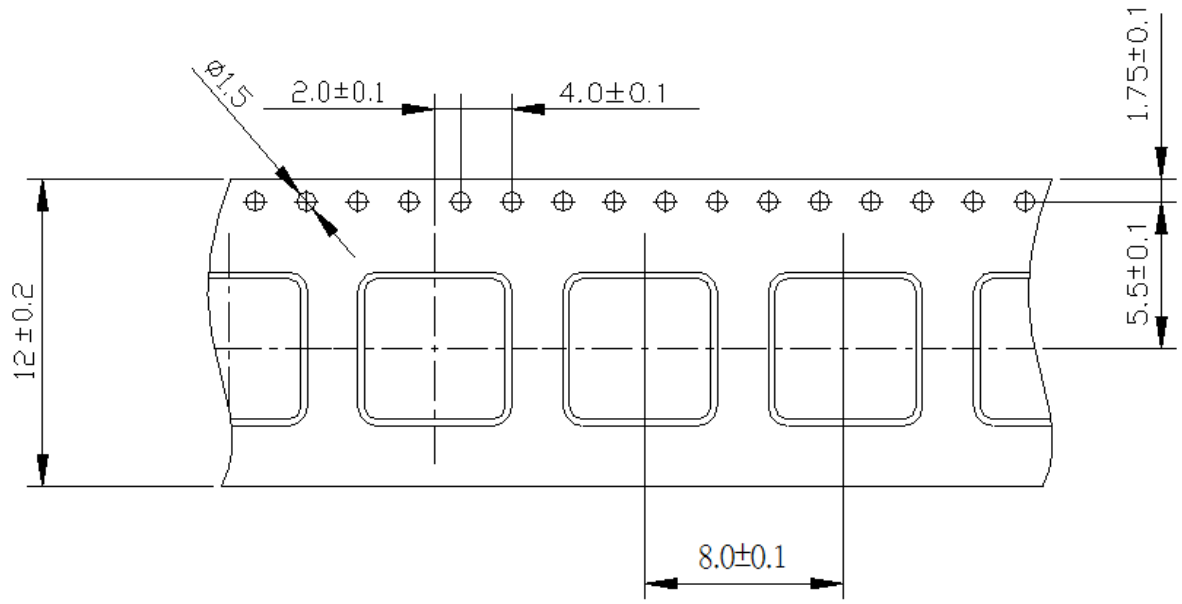


(5)-2 SUBSTRATE BENDING TEST BENDING TEST BOARD

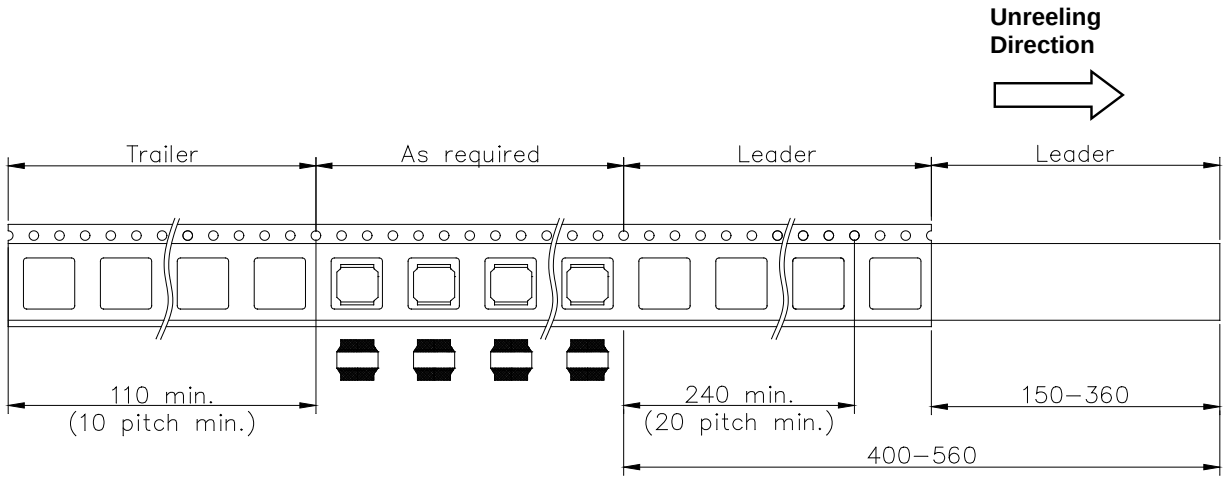


(6) PACKAGING

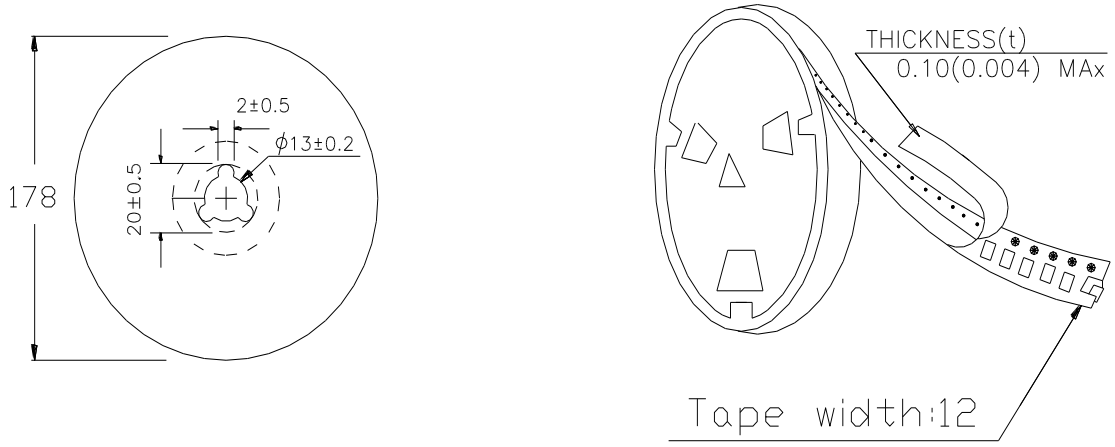
(6)-1 CARRIER TAPE DIMENSIONS (mm)



(6)-2 TAPING DIMENSIONS (mm)



(6)-3 REEL DIMENSIONS (mm)



(6)-4 QUANTITY

1500 pcs/Reel

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

Please note that the contents may change without any prior notice due to reasons such as upgrading.