Ⅰ. SCOPE：

This specification applies to the Pb Free high current type SMD Common mode filter for MCM-9070F-SERIES

PRODUCT INDENTIFICATION

MCM-9070F- 301

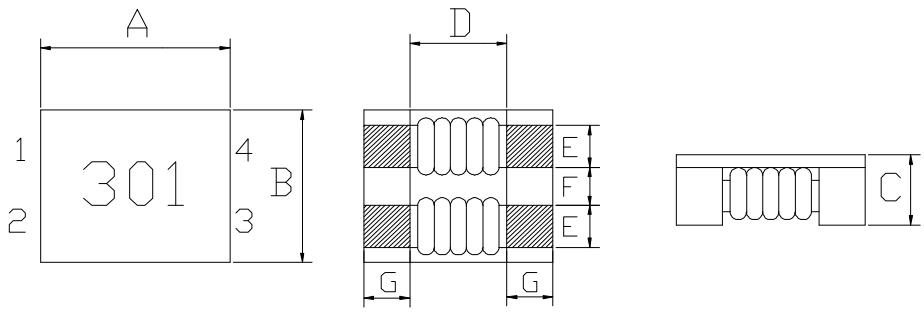
① ② ③

① Product Code

② Dimensions Code

③ Impedance Code

(1) SHAPES AND DIMENSIONS



A:	**9.0±0.5**	**mm**
B:	**7.0±0.5**	**mm**
C:	**4.8Max.**	**mm**
D:	**5.7Typ.**	**mm**
E:	**1.5±0.2**	**mm**
F:	**2.0±0.2**	**mm**
G:	**1.7±0.2**	**mm**

(2) ELECTRICAL SPECIFICATIONS

SEE TABLE 1

TEST INSTRUMENTS

Z : HP 4291B IMPEDANCE ANALYZER (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 Temperature rise …..... ＋40℃ Max.

(3)-2 Ambient temperature ……..... ＋60℃ Max.

(3)-3 Operate temperature range ..... －40℃～＋105℃

(Including self temp. rise)

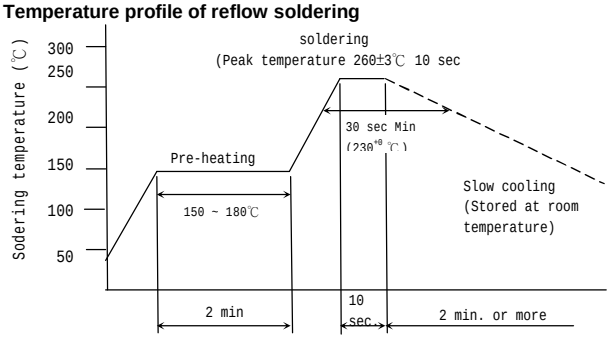
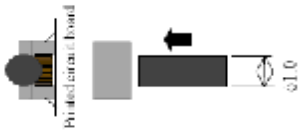
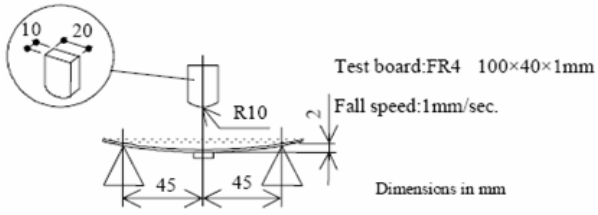
(3)-4 Storage temperature range ..... －40℃～＋105℃

TABLE 1

MAGLAYERS PT/NO.	Impedance(Ω) at 100MHz		Resistance RDC(Ω) Max.(1 line)	Rated Current (A) Max.	Insulation Resistance (MΩ) Min.	Rated Voltage (V)Max.
	Min.	Typ.				
MCM-9070F-301	225	300	6m	6.0	10	50
MCM-9070F-501	450	600	8m	5.5	10	50
MCM-9070F-701	500	700	10m	5.0	10	50
MCM-9070F-102	750	1000	13m	4.0	10	50

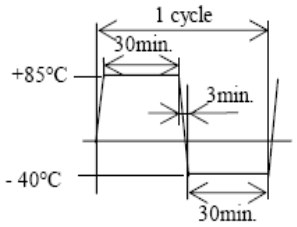
(4) RELIABILITY TEST METHOD

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

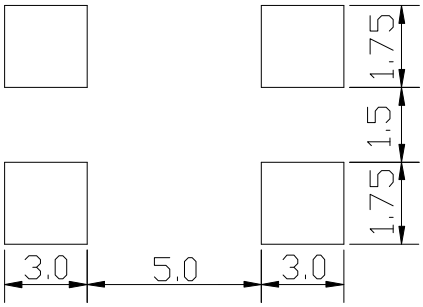
TEST ITEM	SPECIFICATION	TEST DETAILS
Humidity resistance	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	After the samples shall be soldered onto the test 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±5℃. 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

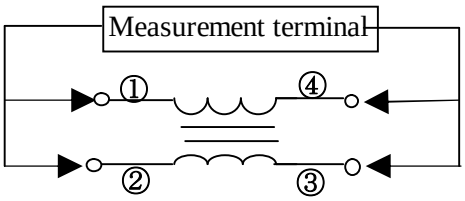
(STANDARD PATTERN) Unit:mm



(6) TEST EQUIPMENT

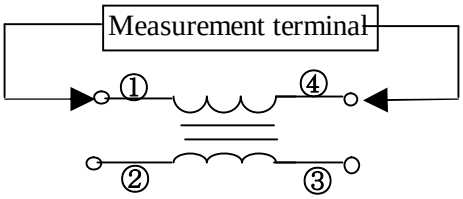
(6)-1 Impedance

Measured by using HP4291B RF Impedance Analyzer.



(6)-2 DC Resistance

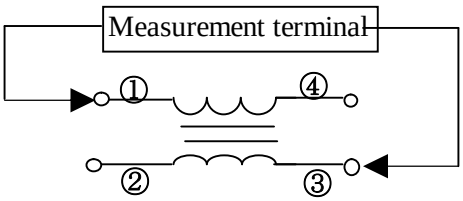
Measured by using Chroma 16502 milliohm meter.



(6)-3 Insulation Resistance

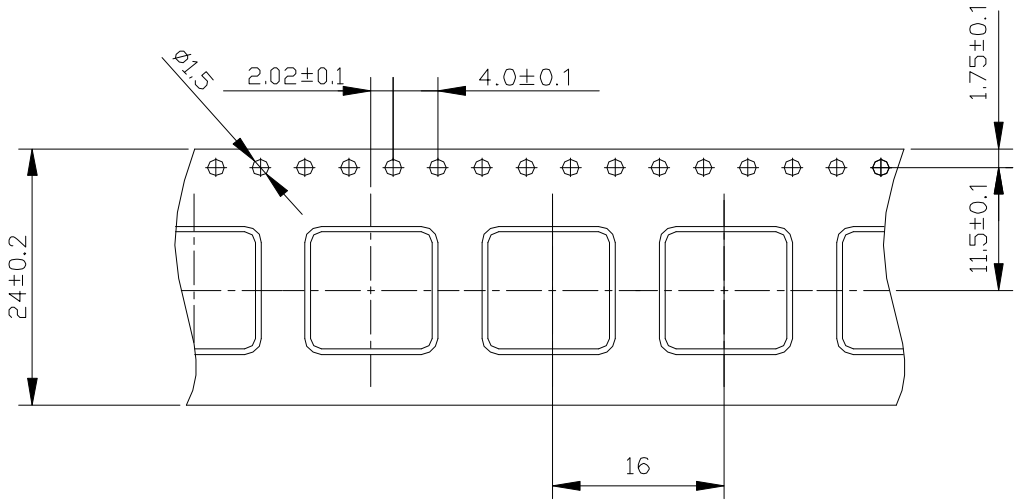
Measured by using Chroma 19073

Measurement voltage : 50v ,Measurement time : 60 sec.

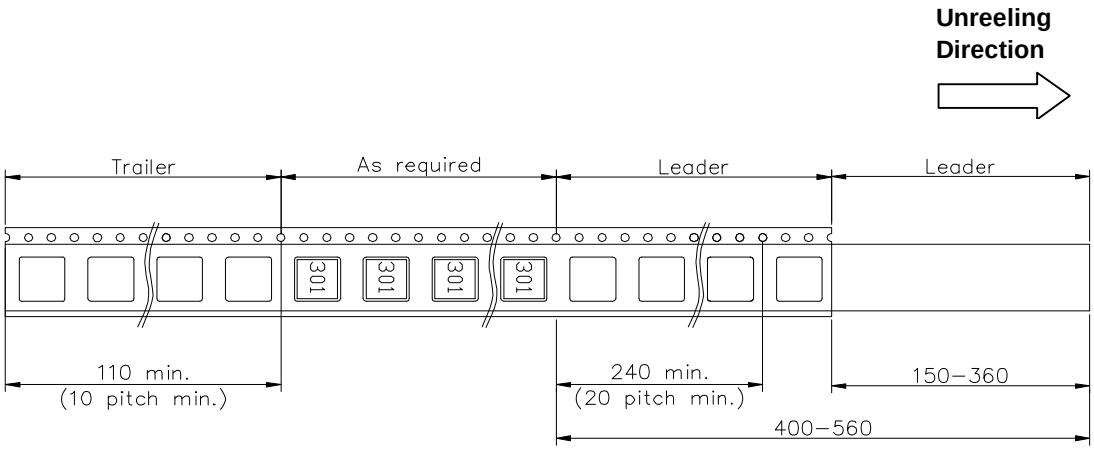


(6) PACKAGING

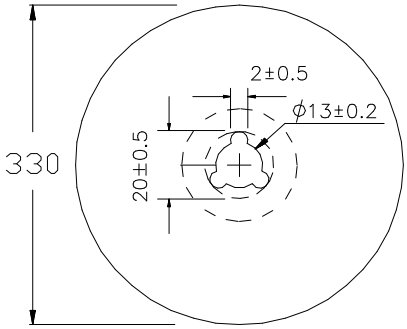
(6)-1 CARRIER TAPE DIMENSIONS (mm)

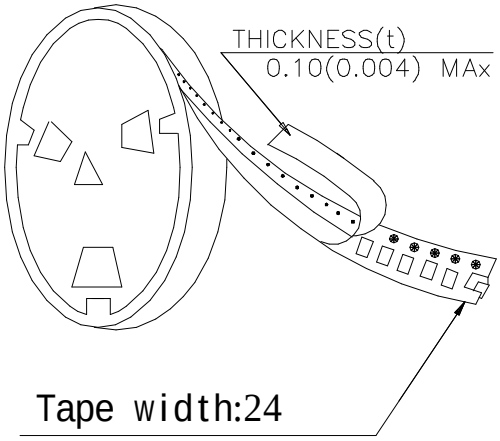


(6)-2 TAPING DIMENSIONS (mm)



(6)-3 REEL DIMENSIONS (mm)





(6)-4 QUANTITY

700 Pcs/Reel

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

TYPICAL ELECTRICAL CHARACTERISTICS