



Product Engineering Specification MCM1012B SERIES (Chip Common Mode Filter)

■ FEATURES AND APPLICATION

Powerful components with composite co-fired material to solve EMI problem for high speed differential signal transmission line as USB, and LVDS, without distortion to high speed signal transmission.

MIPI, MHL serial interface in mobile device.

This product belongs to the industrial grade standard, not the vehicle gauge product!
Cannot use auto parts, if the customer is not expressly informed and privately used to auto parts, produce any consequences, the original is not responsible for after-sales service, thank you!

■ PRODUCT DETAIL

Part No.	Imp. Com. (Ω) \pm 25%	DCR	Rated Current	Rated Voltage	Withstand Voltage	Insulation Resistance
	@100MHz	Max. (Ω)	Max. (mA)	(V)	(V)	Min.(M Ω)
MCM1012B670F06A	67	0.50	300	10	25	200
MCM1012B900F06A	90	0.60	300	10	25	200
MCM1012B121F06A	120	0.60	300	10	25	200
Test Instruments	<input type="checkbox"/> Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER <input type="checkbox"/> HP4338 MILLIOHMMETER <input type="checkbox"/> Agilent E5071C ENA SERIES NETWORK ANALYZER <input type="checkbox"/> Keithley 2410 1100V SOURCE METER					



■ PART NUMBER CODE

MCM **1012** **B** **90** **0** **F** **06** **A**
1 **2** **3** **4** **5** **6** **7** **8**

- 1 Series Name
- 2 Size Code : L*W
- 3 Material Code
- 4 Impedance at 100MHz
- 5 Fixed Decimal Point } (ex : 900=90Ω)
- 6 Rated Current Code

A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I=600mA	J=700mA	K=800mA	

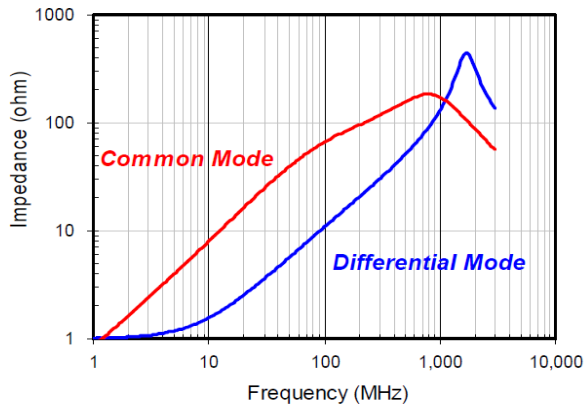
7 Dimensions T (ex : 06=0.60mm)

8 Soldering: Green Parts: A— Lead-Free

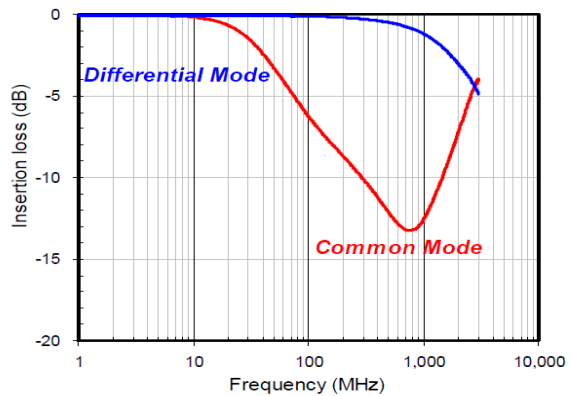
■ IMPEDANCE VS. FREQUENCY CHARACTERISTICS

MCM1012B670F06A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



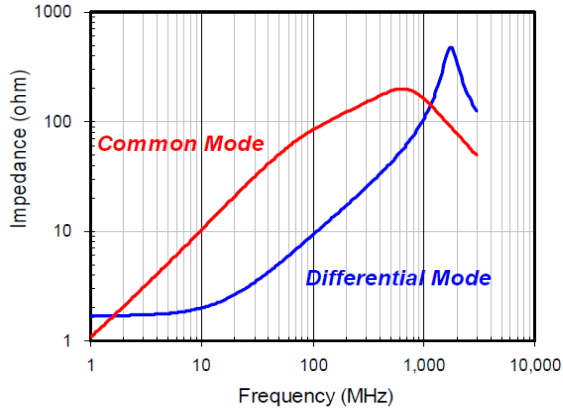
INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



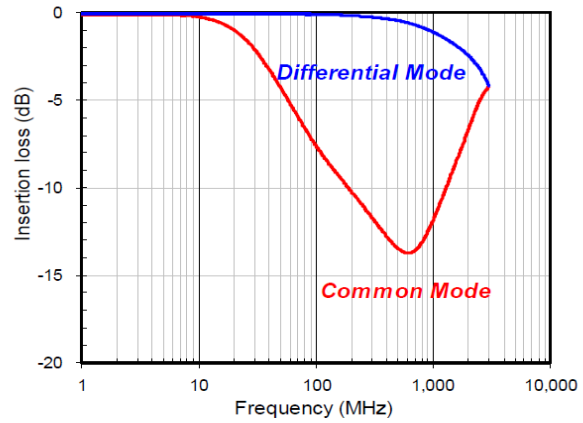


MCM1012B900F06A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

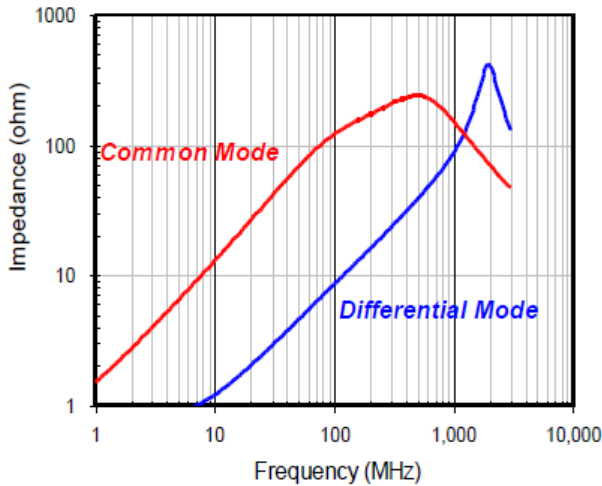


INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

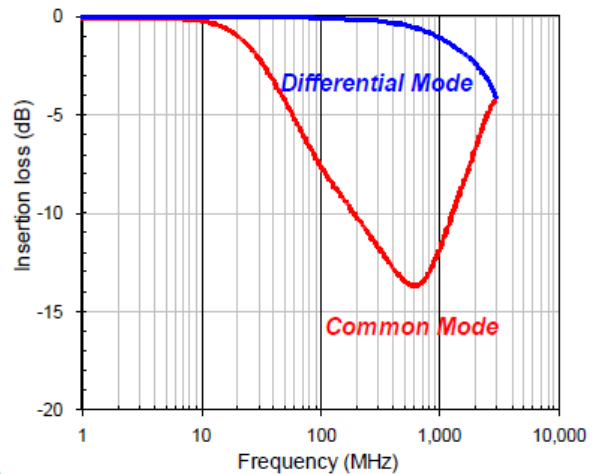


MCM1012B121F06A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



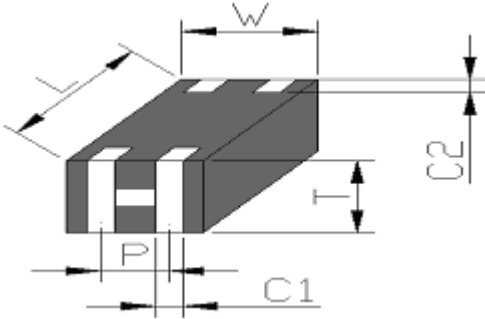
INSERTION LOSS vs. FREQUENCY CHARACTERISTICS





■ SHAPES AND DIMENSIONS

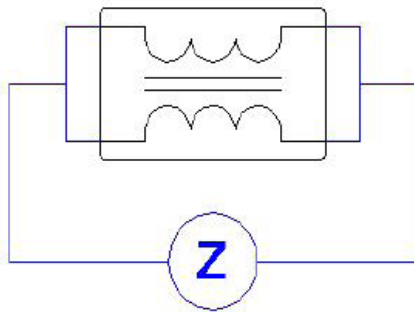
Unit: mm



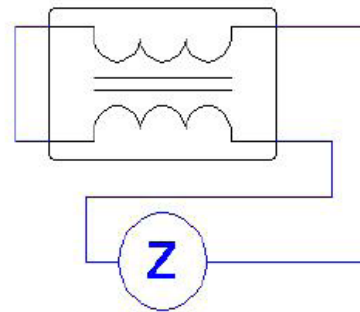
TYPE	1012
L	1.25±0.10
W	1.00±0.10
T	0.60±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15

MEASURING CIRCUITS

(A):Common mode

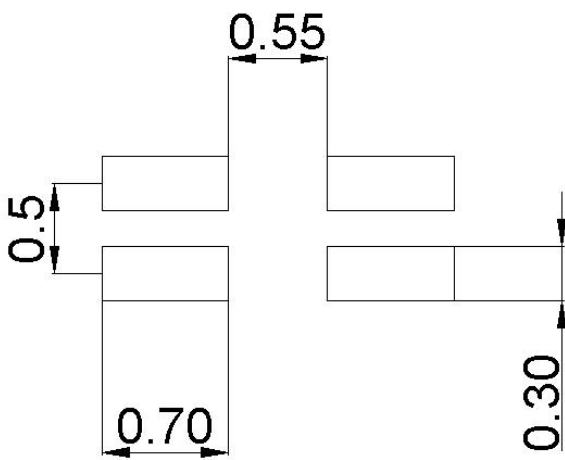
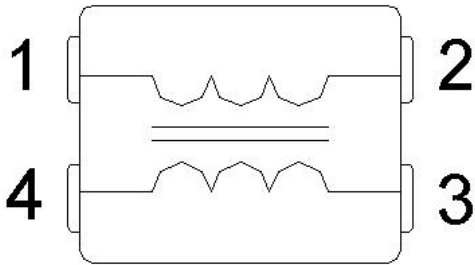


(B):Differential mode

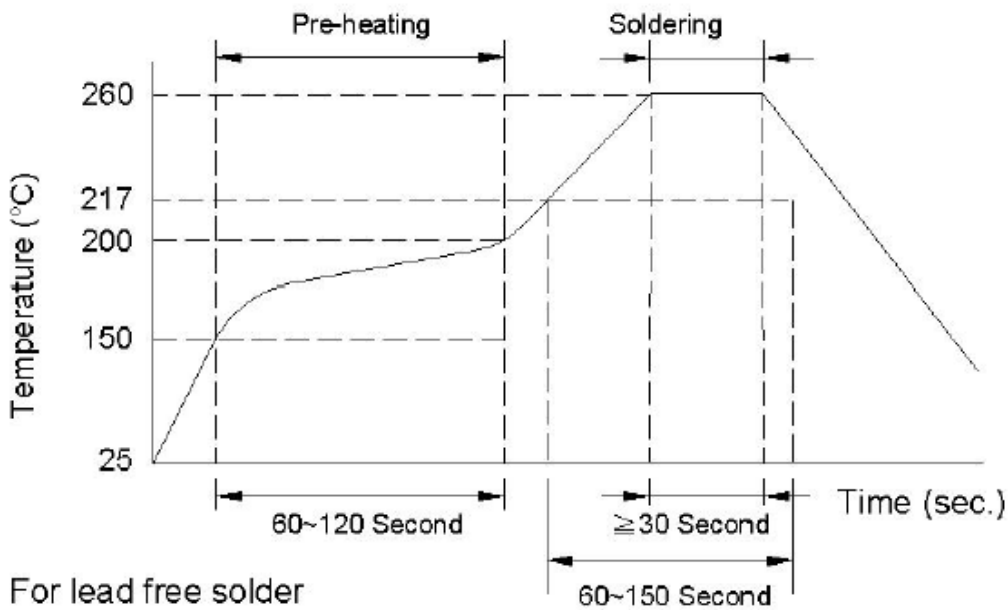




■ CIRCUIT CONFIGURATION & LAYOUT PAD



■ RECOMMENDED SOLDERING CONDITIONS





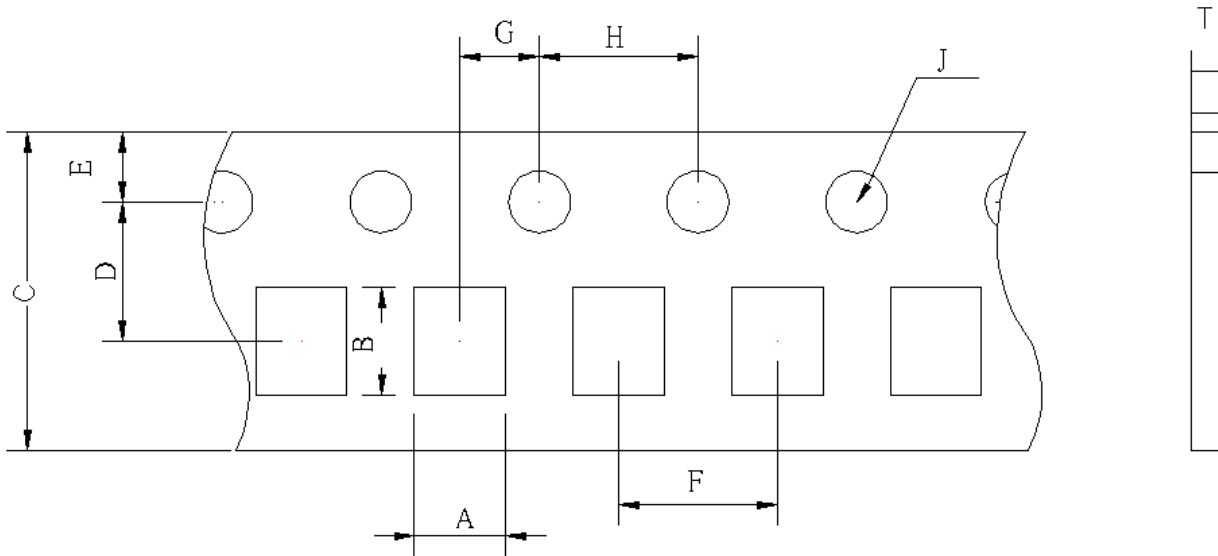
■ RELIABILITY AND TEST CONDITION

Test item	Test Condition	Criteria
Temperature Cycle	A. Temperature : -40 ~ +85°C B. Cycle : 100 cycles C. Dwell time : 30minutes Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Impedance value should be within $\pm 20\%$ of the initial value
Operational Life	A. Temperature: 85 $\pm 5^\circ\text{C}$ B. Test time: 1000 hrs C. Applied current: Full rated current Measurement: at ambient temperature 24 hours after test completion	A. No mechanical damage B. Impedance value should be within $\pm 20\%$ of the initial value
Biased Humidity	A. Temperature: 40 $\pm 2^\circ\text{C}$ B. Humidity: 90-95 % RH C. Test time: 1000 hrs D. Applied current: Full rated current Measurement: at ambient temperature 24 hours after test completion	A. No mechanical damage B. Impedance value should be within $\pm 20\%$ of the initial value
Resistance to Solder Heat	A. Solder temperature : 260 $\pm 5^\circ\text{C}$ B. Flux : Rosin C. DIP time : 10 ± 1 sec	A. More than 95 % of terminal electrode should be covered with new solder B. No mechanical damage C. Impedance value should be within $\pm 20\%$ of the initial value
Steam Aging Test	A. Temperature : 93 $\pm 2^\circ\text{C}$ B. Test time : 4 hrs(MCA) Others : 8 hrs C. Solder temperature : 235 $\pm 5^\circ\text{C}$ D. Flux : Rosin E. DIP time : 5 ± 1 sec	More than 95 % of terminal electrode should be covered with new solder



■ TAPE AND REEL SPECIFICATIONS

PLASTIC CARRIER



1. Taping Dimensions

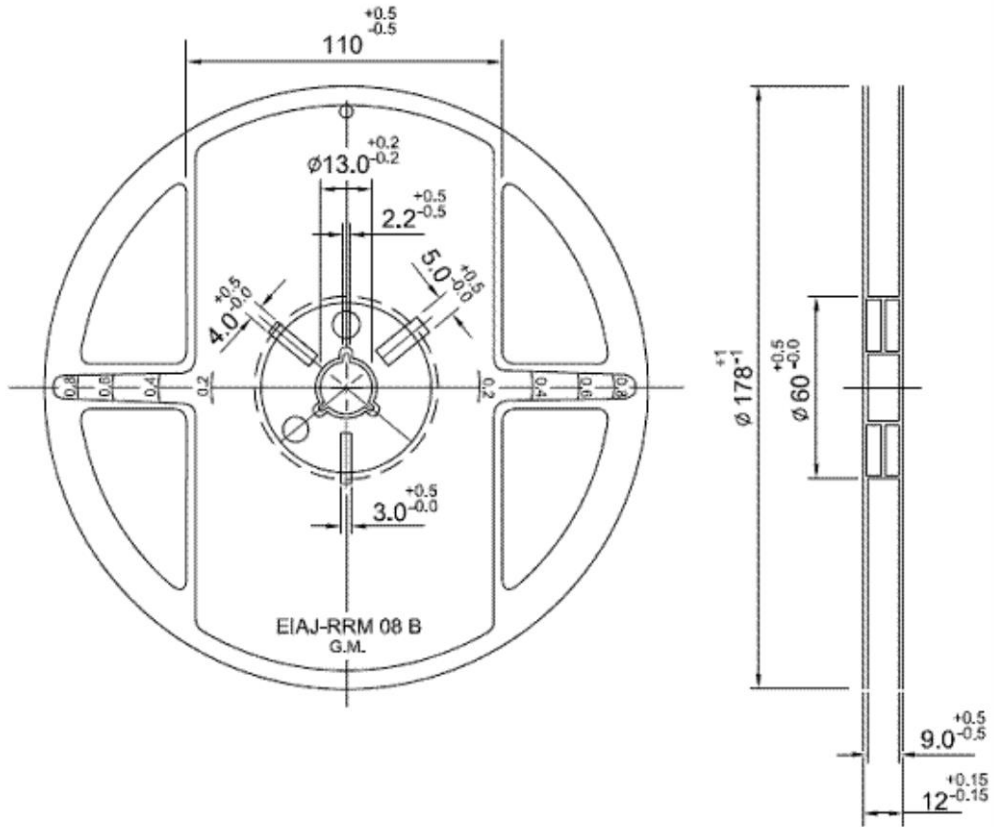
Unit : mm

Symbol	Size	Symbol	Size
C	8.00±0.10	H	4.00±0.10
D	3.50±0.05	J	Φ1.55±0.05
E	1.75±0.05	T	0.75±0.03
F	4.00±0.10	A	1.20±0.05
G	2.00±0.05	B	1.45±0.05



2. REEL DIMENSIONS

Unit: mm



Reel Packaging Quantity		
PART SIZE (EIA SIZE)		1012 (0405)
7" REEL	Qty. (pcs)	4,000

■ GENERAL TECHNICAL DATA

Operating temperature range : - 40°C ~ +85°C
 Storage temperature : 40°C Max., 70%RH Max.
 Storage Time: 6 months Max.
 Soldering method: Reflow