



INPAQ

PRODUCT SPECIFICATION

DOCUMENT NO. ENS000055120

DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
MCM1012B LOW PROFILE TYPE	<i>sharon chen</i>	<i>William</i>	<i>Coulton</i>	<i>Albert Wu</i>

MCM1012B SERIES LOW PROFILE TYPE (Chip Common Mode Filter) Engineering Specification



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.

1. PRODUCT DETAILS

Part No.	Imp. Com. (Ω)±25% @100MHz	DCR Max. (Ω)	Rated Current Max.(mA)	Rated Voltage (V)	Withstand Voltage (V)	Insulation Resistance Min.(MΩ)
MCM1012B900F06BPDG	90	0.60	300	10	25	200
Test Instruments	•Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER •HP4338 MILLIOHMMETER •Agilent E5071C ENA SERIES NETWORK ANALYZER •Keithley 2410 1100V SOURCE METER					

2. PART NUMBER CODE

MCM 1012 B 90 0 F 06 B P DG
 1 2 3 4 5 6 7 8 9 10

- Series Name
- Dimensions L*W
- Material Code
- Impedance(Ω) ± 25% } (ex : 900=90Ω)
- Fixed Decimal Point }
- Rated Current Code

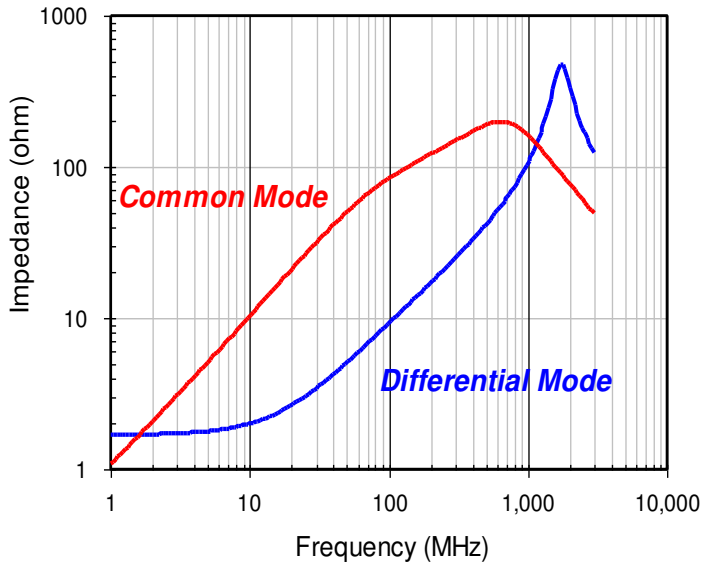
A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I=600mA	J=700mA	K=800mA	

- Dimensions T (ex : 06=0.60mm)
- Soldering: Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip
- Packaging: P – Embossed paper tape, 7”reel.
- INPAQ Control code

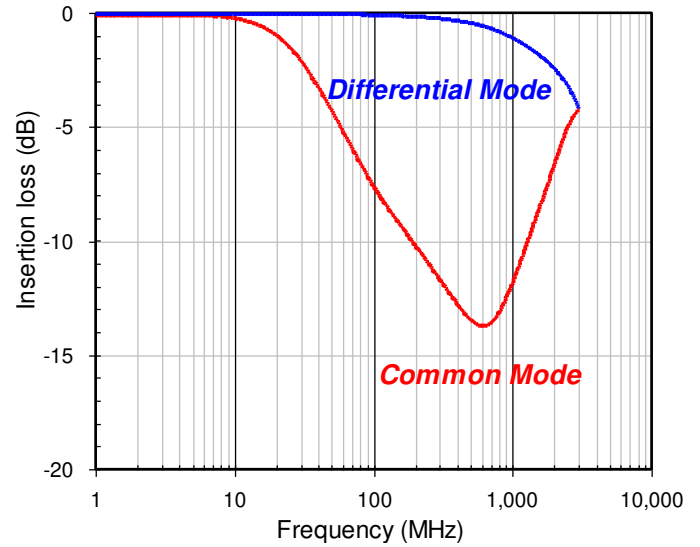
3. TYPICAL CHARACTERISTIC

MCM1012B900F06BPDG

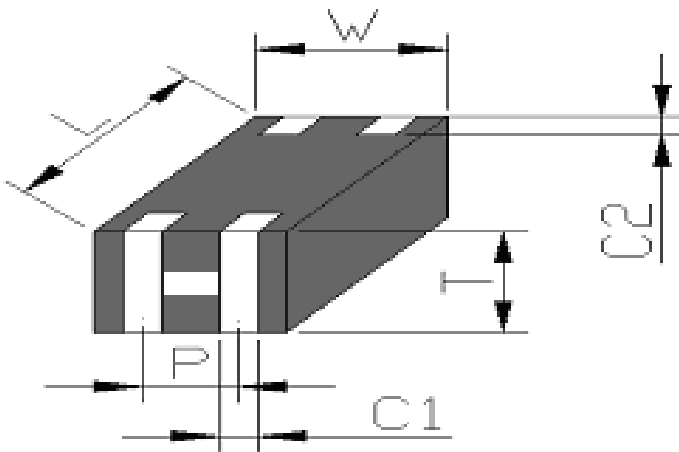
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



4. SHAPES AND DIMENSIONS

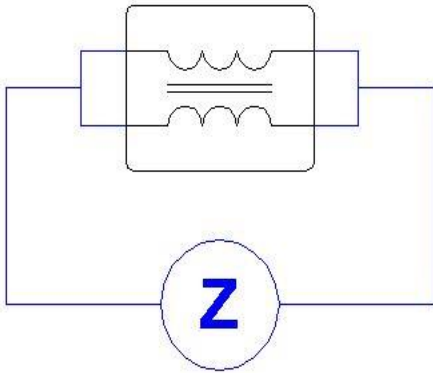


TYPE	1012
L	1.25±0.10
W	1.00±0.10
T	0.60±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15

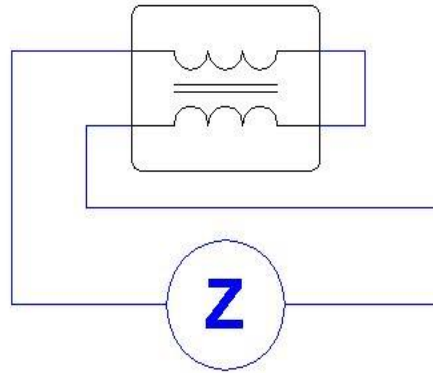
Unit: mm

5.MEASURING CIRCUITS

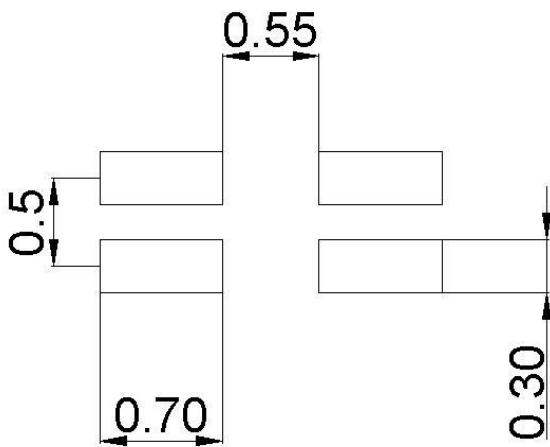
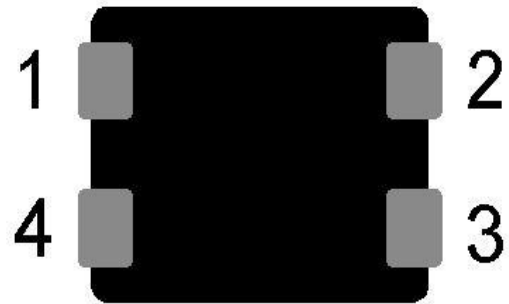
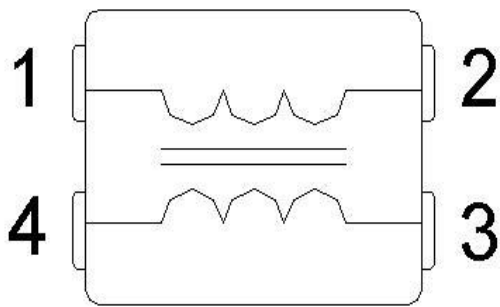
(A):Common mode



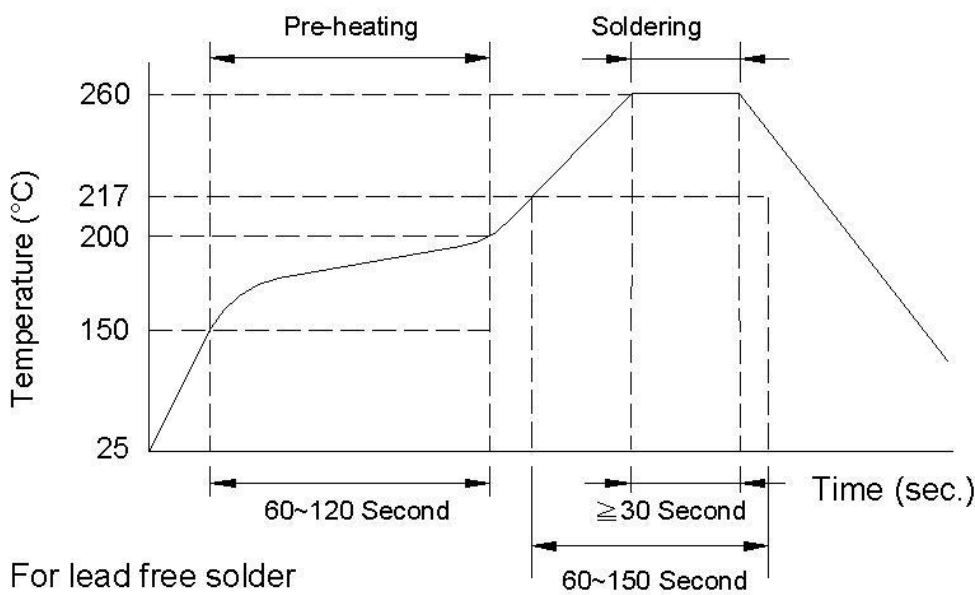
(B):Differential mode



6. CIRCUIT CONFIGURATION & LAYOUT PAD



7. RECOMMENDED SOLDERING CONDITIONS

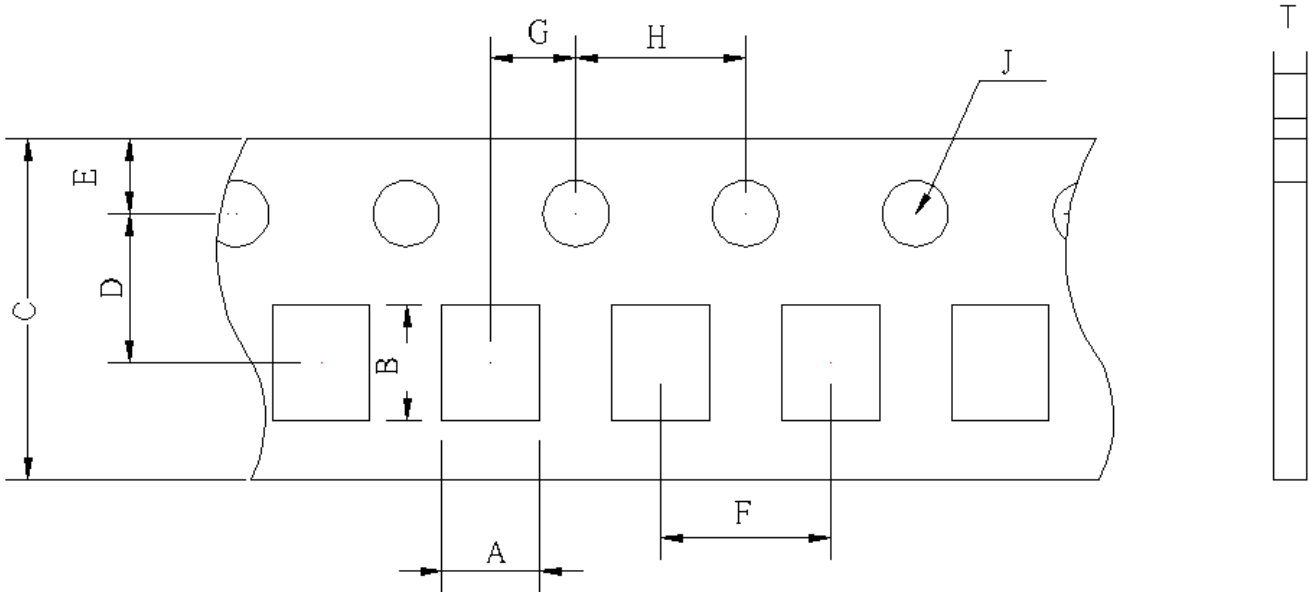


8.RELIABILITY AND TEST CONDITION

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 : $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ B. Test time : 1000 hrs C. Apply current : full rated current 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
Biased Humidity	A. Temperature : $40 \pm 2^{\circ}\text{C}$ B. Humidity : 90 ~ 95 % RH C. Test time : 1000 hrs D. Apply current : full rated current 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
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

9.TAPE AND REEL SPECIFICATIONS

Type : Paper Carrier

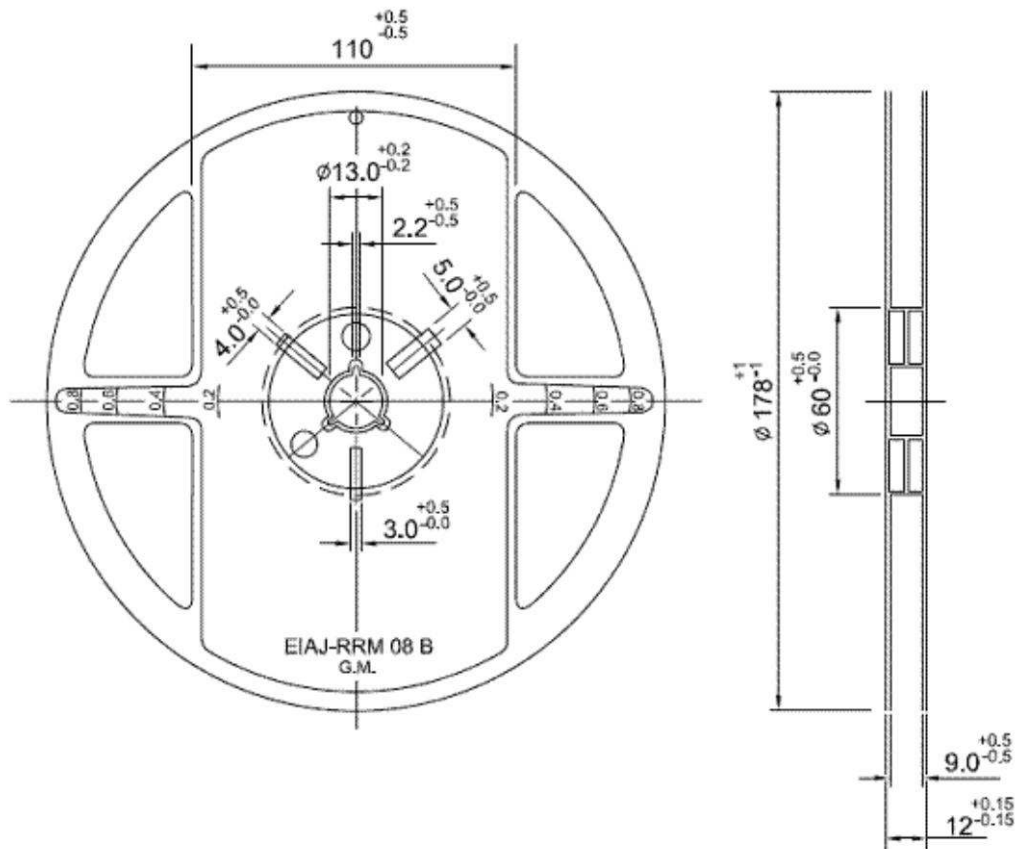


Unit : mm

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

10. REEL DIMENSIONS

Unit: mm



11. STANDARD QUANTITY FOR PACKAGING

Packaging style : Taping

Reel packaging quantity : 4000 pcs/reel

Inner box : 5 reel/inner box

12. 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 or Wave Soldering