



PRODUCT SPECIFICATION

DOCUMENT NO. ENS000055120				
DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
MCM1012-B LOW PROFILE TYPE	陳曉慧 Sharon Chen	王宣芸 Yun Wang	鄭志宏 Coulttun Cheng	吳維政 Albert Wu

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



This product belongs to the 3C and industrial grade standard, not for automotive application. If customer privately uses to automotive parts and results in any consequences, INPAQ is not responsible for after-sales service, thank you!

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) $\pm$ 25% @100MHz	DCR (Ω) Max.	Rated Current Max.(mA)	Rated Voltage (V)	Withstand Voltage (V)	Insulation Resistance Min.(M Ω)
MCM1012B900F06BPDG	90	0.60	300	10	25	200
MCM1012B121F06BPDG	120	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

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

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

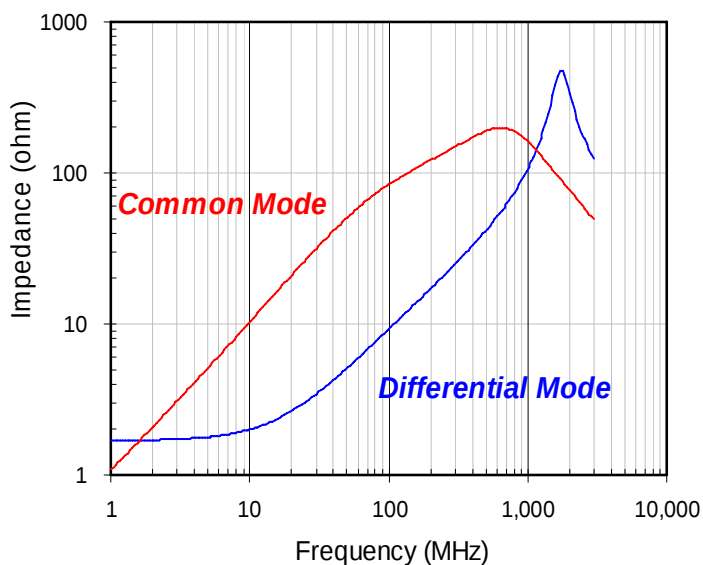
A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I=600mA	J=700mA	K=800mA	

- 7 Dimensions T (ex : 06=0.60mm)
- 8 Soldering: Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip
- 9 Packaging: P – Paper tape, 7"reel.
- 10 INPAQ internal code

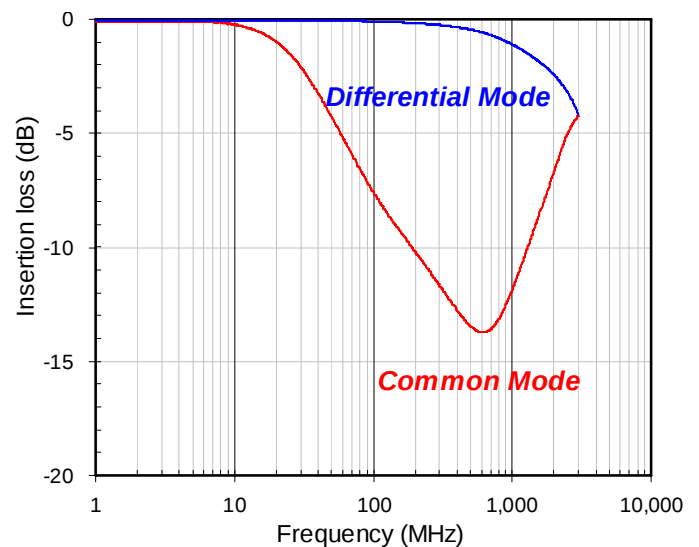
3. TYPICAL CHARACTERISTIC

MCM1012B900F06BP

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

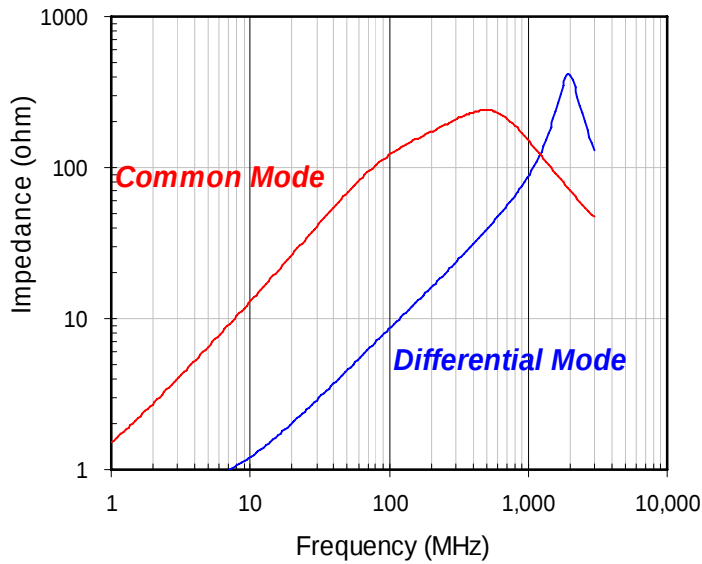


INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

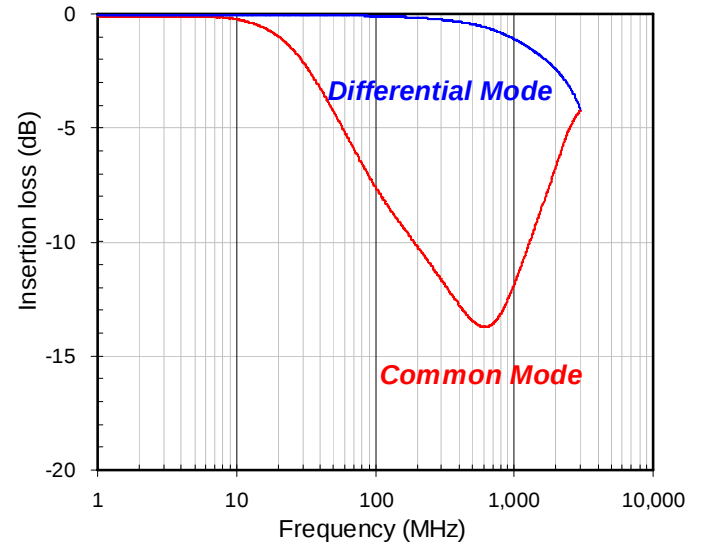


MCM1012B121F06BP

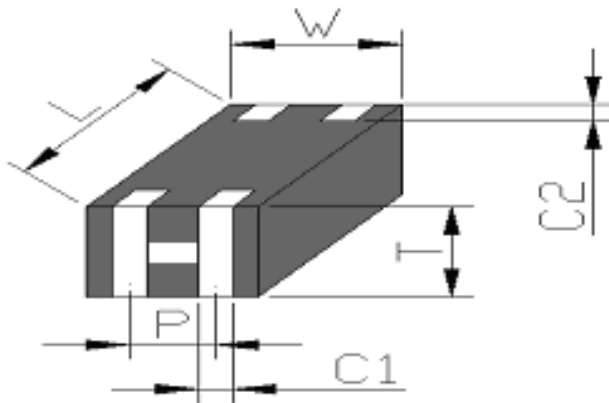
IMPEDANCE vs. FREQUENCY CHARACTERISTICS



INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



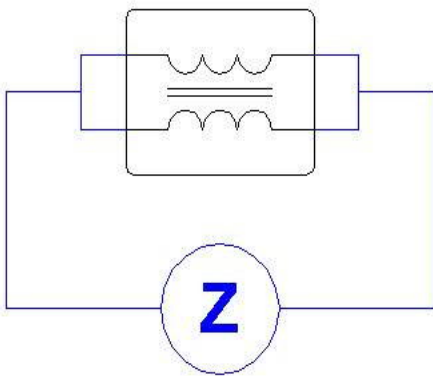
4. SHAPES AND DIMENSIONS



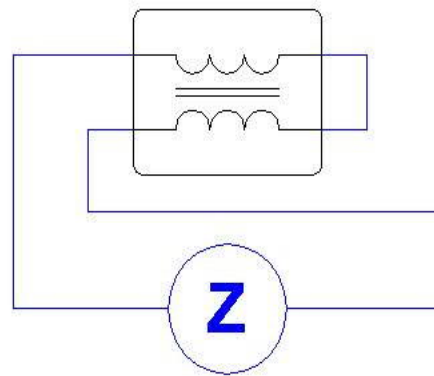
TYPE	1012
L	1.25±0.10
W	1.00±0.10
T	0.60±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15
Unit: mm	

5. MEASURING CIRCUITS

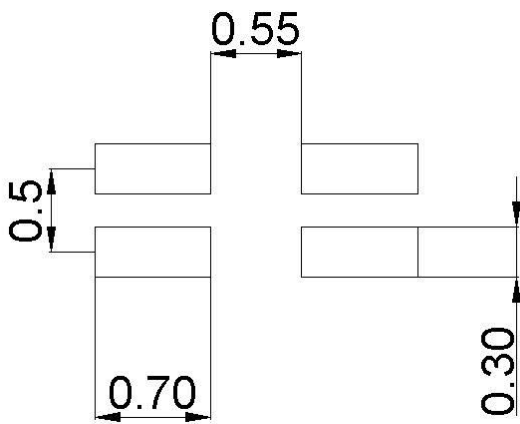
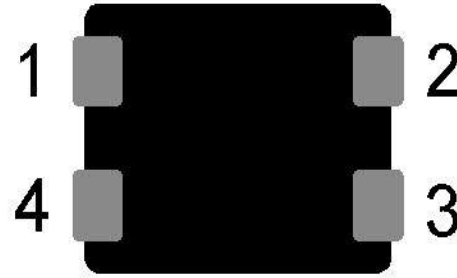
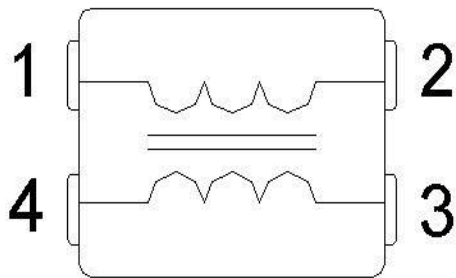
(A): Common mode



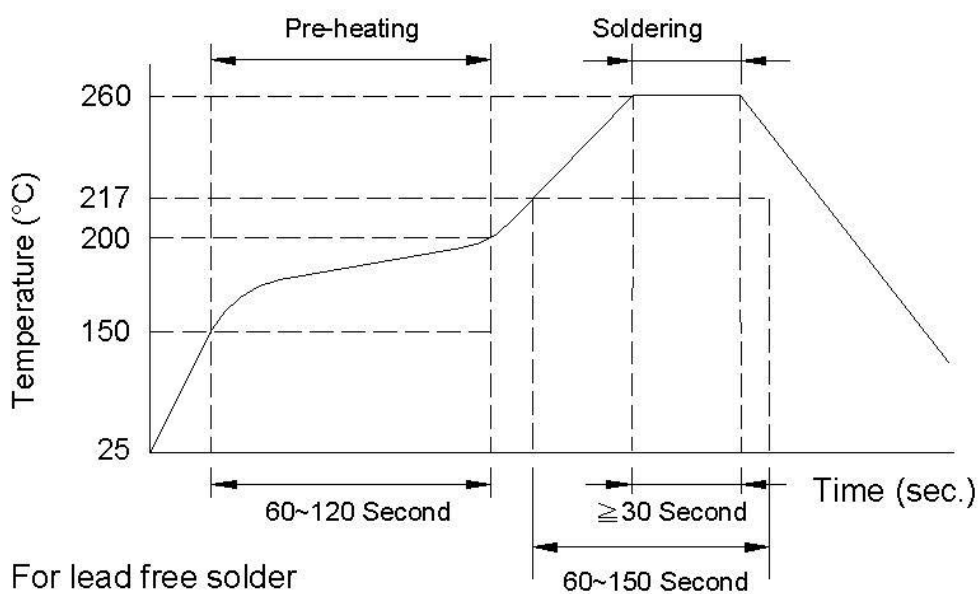
(B): Differential mode



6.CIRCUIT CONFIGURATION & LAYOUT PAD



7.RECOMMENDED SOLDERING CONDITIONS

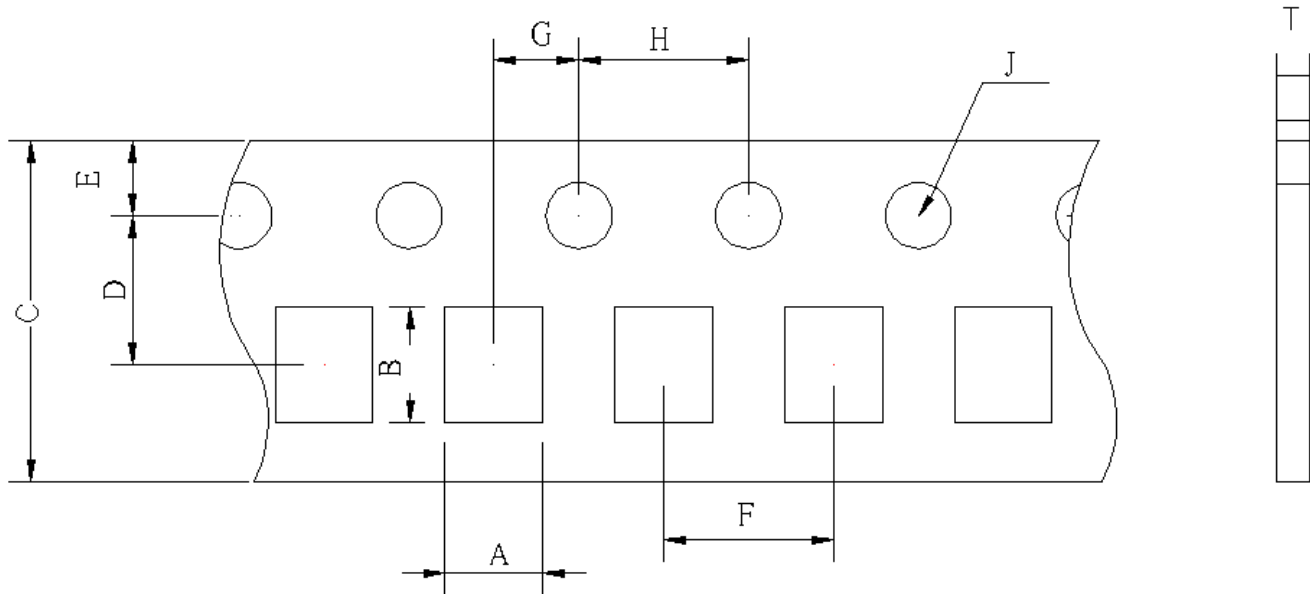


8.RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
Thermal Shock	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°C $\pm$ 5°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°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°C B. Flux : Rosin C. DIP time : 10 $\pm$ 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°C B. Test time : 4 hrs(MCA) Others : 8 hrs C. Solder temperature : 235 $\pm$ 5°C D. Flux : Rosin E. DIP time : 5 $\pm$ 1 sec	More than 95 % of terminal electrode should be covered with new solder

9.TAPE AND REEL SPECIFICATIONS

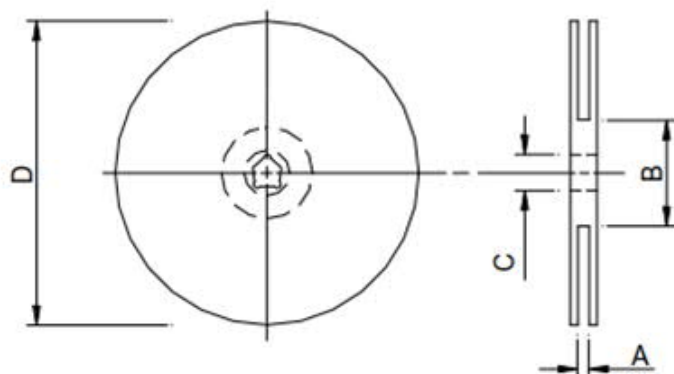
Type : Paper Carrier



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



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"	10±1.5	50 or more	13.2±1.0	178±2.0

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

13. NOTE

The storage atmosphere must be free of gas containing sulfur and chlorine. Also, avoid exposing the product to saline moisture. If the product is exposed to such atmospheres, the terminals will oxidize and solderability will be affected.