PRODUCT SPECIFICATION

DOCUMENT NO. 0003612XXXXX				
DESCRIPTION	**DRAWN BY**	**DESIGNED BY**	**CHECKED BY**	**APPROVED BY**
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MCM2012B SERIES (Chip Common Mode Filter) Engineering Specification

RoHS

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.

1.PRODUCT DETAIL

Part No.	Imp. Com. (Ω)±25% @100MHz	DCR (Ω) Max.	Rated Current Max.(mA)	Rated Voltage (V)	Withstand Voltage (V)	Insulation Resistance Min.(MΩ)
MCM2012B900GBEDG	90	0.40	400	10	25	200
MCM2012B121GBEDG	120	0.40	400	10	25	200
MCM2012B161GBEDG	160	0.50	400	10	25	200
Test Instruments	•Agilent E4991A/B RF IMPEDANCE / MATERIAL ANALYZER •HP4338 MILLIOHMMETER • Agilent E5071C ENA SERIES NETWORK ANALYZER •Keithley 2410 1100V SOURCE METER					

2.PART NUMBER CODE

MCM	2012	B	90	0	G	B	E	DG
1	2	3	4	5	6	7	8	9

1 Series Name
2 Size Code: the first two digitals : length(mm), the last two digitals : width(mm)
3 Material Code
4 Impedance(Ω) ± 25% ┐
5 Fixed Decimal Point ┘ (ex：900=90Ω ；121=120Ω)
6 Rated Current Code

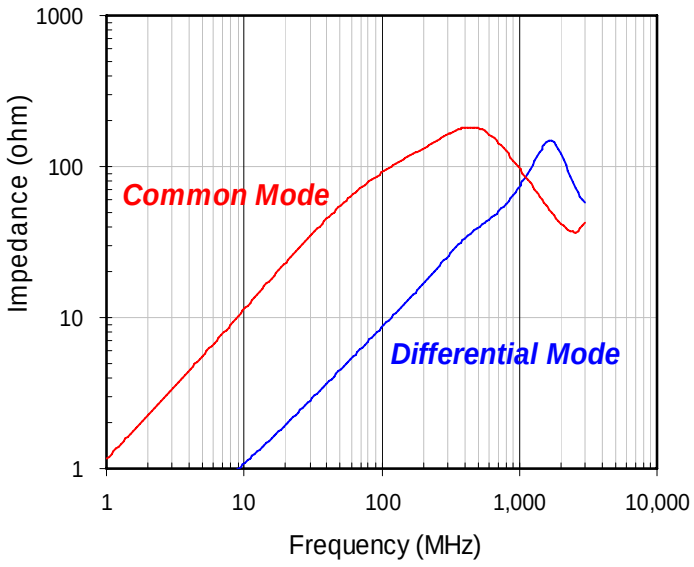
A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I =600mA	J =700mA	K=800mA	

7 Soldering: Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip
8 Packaging: E - Embossed plastic tape, 7" reel.
9 INPAQ internal code

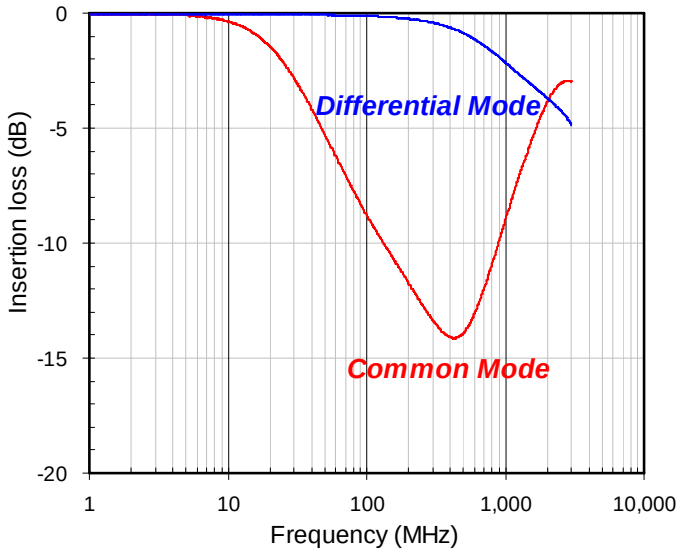
3.TYPICAL CHARACTERISTIC

MCM2012B900

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

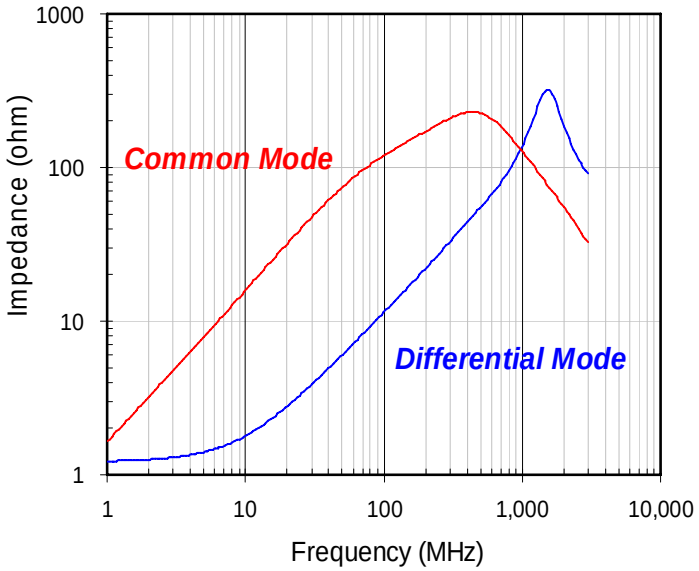


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

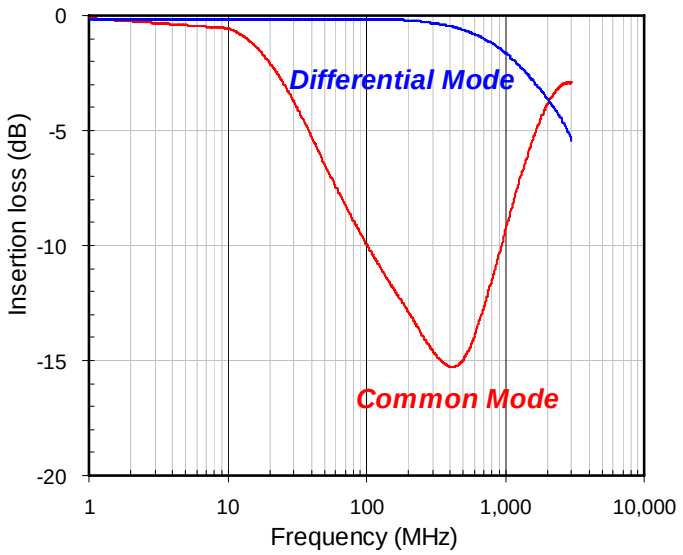


MCM2012B121

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

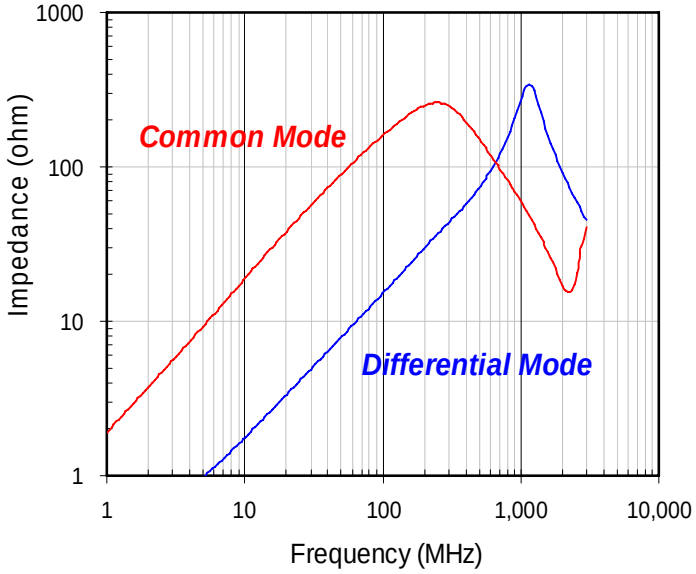


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

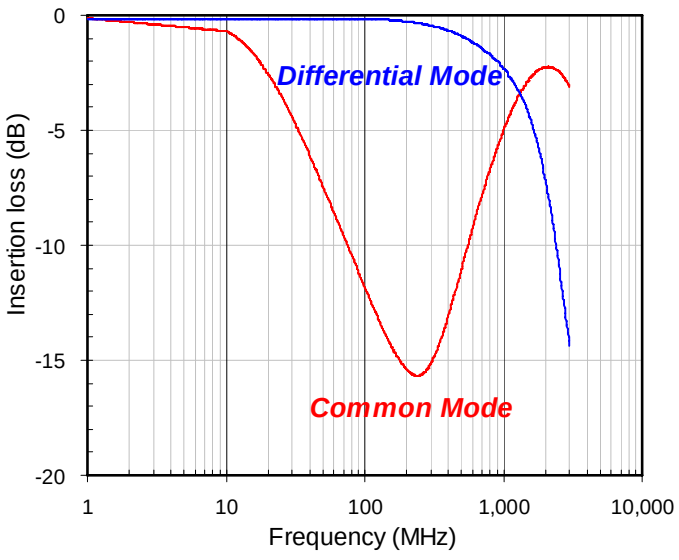


MCM2012B161

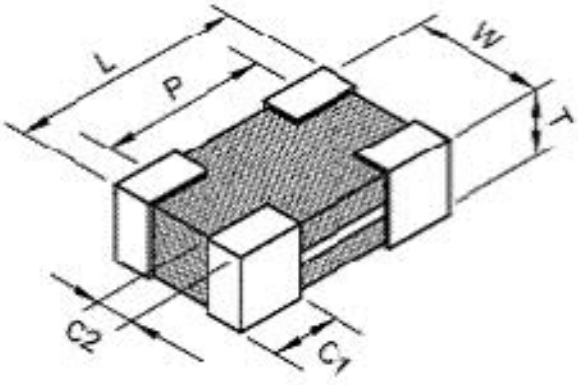
IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



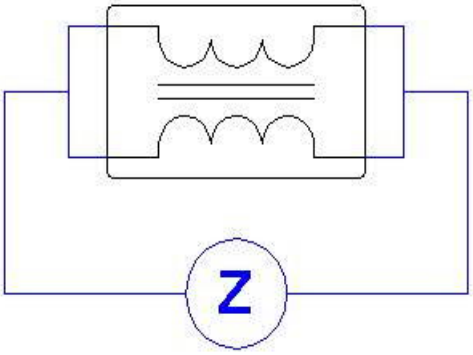
4.SHAPES AND DIMENSIONS



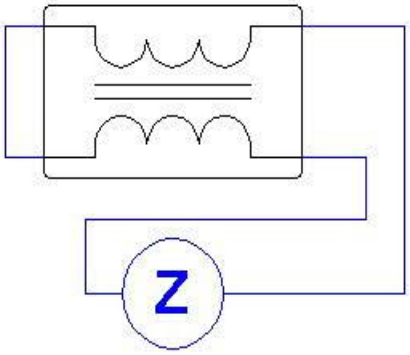
TYPE	2012
L	2.00±0.20
W	1.25±0.20
T	1.00±0.10
P	1.60±0.20
C1	0.40±0.20
C2	0.30±0.20
Unit	mm

5.MEASURING CIRCUITS

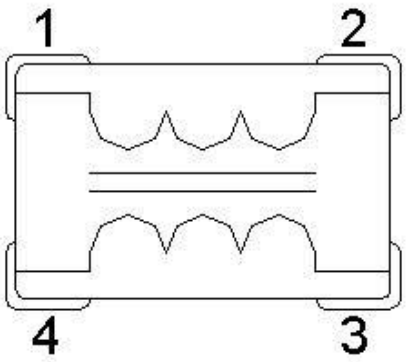
(A):Common mode

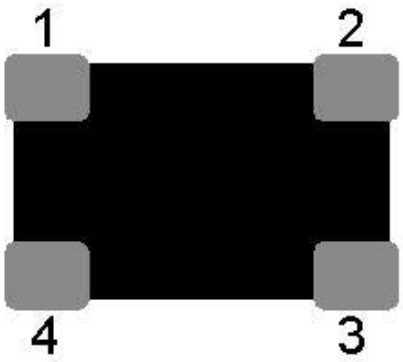


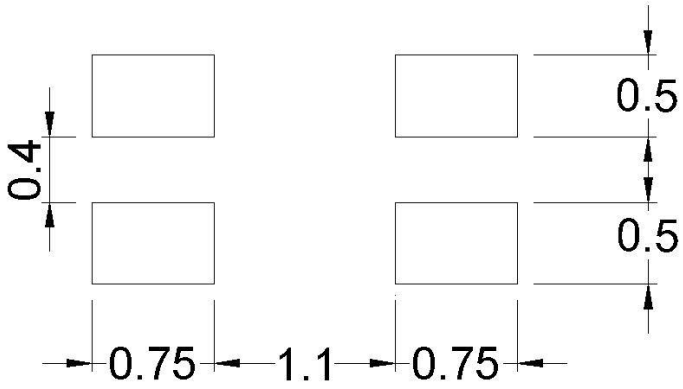
(B):Differential mode



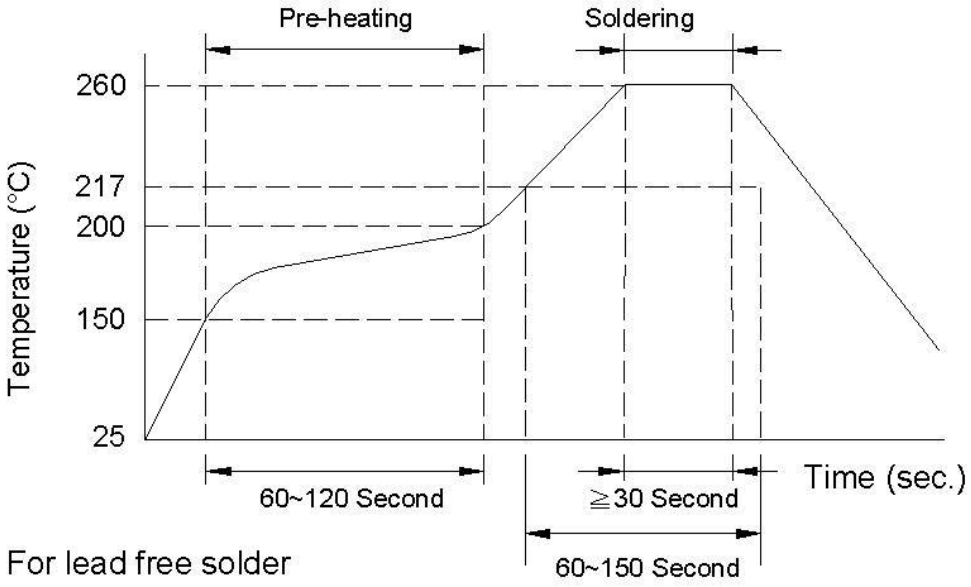
6.CIRCUIT CONFIGURATION & LAYOUT PAD







7.RECOMMENDED SOLDERING CONDITIONS

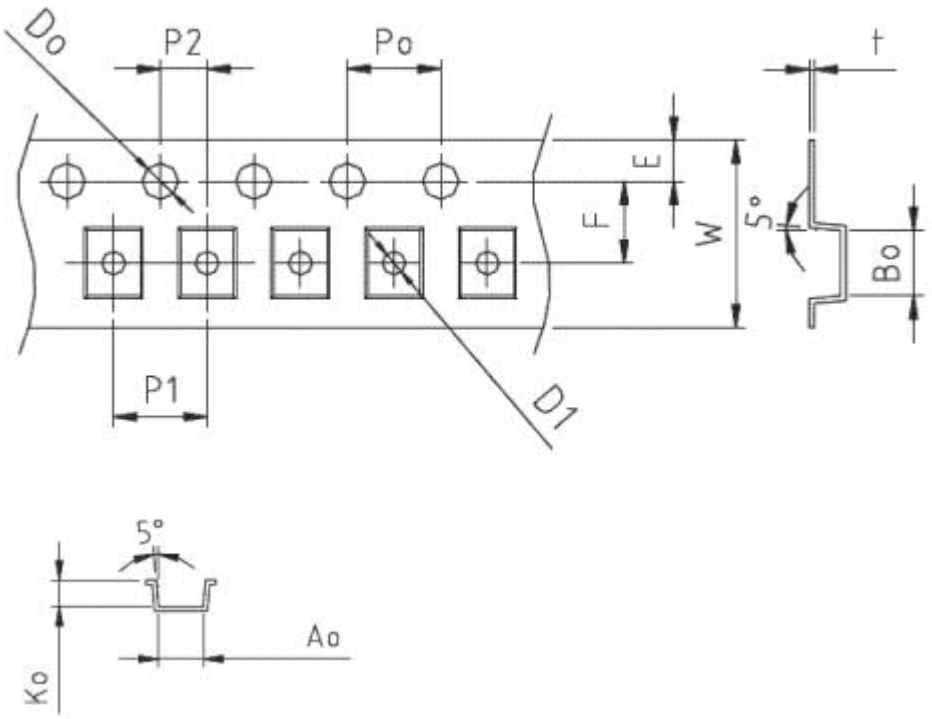


8.RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
Thermal Shock	A. Temperature : -40 ~ +85℃ 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 ± 20 % of the initial value
Operational Life	A. Temperature : 85℃ ± 5℃ 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 ± 20 % of the initial value
Biased Humidity	A. Temperature : 40 ± 2℃ 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 ± 20 % of the initial value
Resistance to Solder Heat	A. Solder temperature : 260 ± 5℃ 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 ± 20 % of the initial value
Steam Aging Test	A. Temperature : 93 ± 2℃ B. Test time : 4 hrs(MCA) Others : 8 hrs C. Solder temperature : 235 ± 5℃ 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

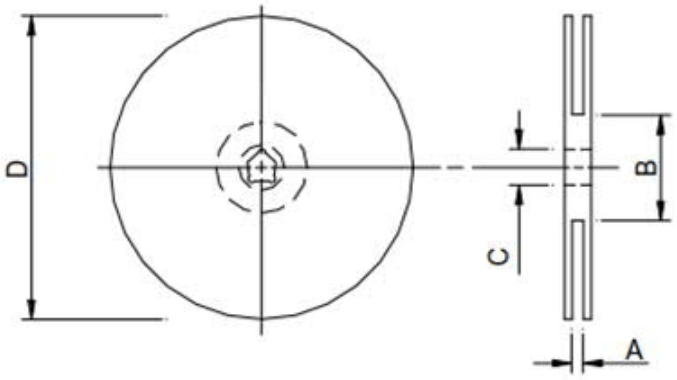
Type：Plastic Carrier



Unit：mm

Symbol	Size	Symbol	Size
W	8.00±0.10	Po	4.00±0.10
P1	4.00±0.10	P2	2.00±0.10
E	1.75±0.10	Bo	2.25±0.10
F	3.50±0.10	Ao	1.40±0.10
Do	1.55±0.05	Ko	1.13±0.10
D1	1.00±0.05	t	0.22±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：3000 pcs/reel
Inner box：5 reel/inner box

12.GENERAL TECHNICAL DATA

Operating temperature range : - 40℃ ~ +85℃
Storage Condition : Less than 40℃ and 70% RH
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.