HCM2012G SERIES (Chip Common Mode Filter) Engineering Specification

RoHS Pb

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 DETAIL

Part No.	Imp. Com. (Ω)±25% @100MHz	DCR Max. (Ω)	Rated Current Max.(mA)	Rated Voltage (V)	Insulation Resistance Min.(MΩ)	Withstand Voltage (V)
HCM2012GH670AE	67	1.0	200	10	100	25
HCM2012GH900AE	90	1.0	200	10	100	25
HCM2012GD900AE	90	1.0	200	10	100	25
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

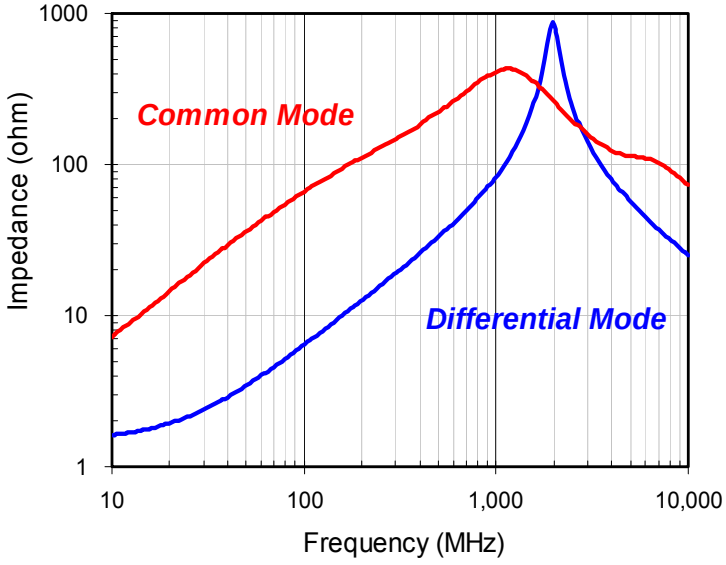
HCM	2012	G	□	67	0	□	E
1	2	3	4	5	6	7	8

1：Series name
2：Dimensions L*W
3：Material code
4：Product identification number
5：Impedance value (ex：900=90Ω)
6：Fixed decimal point
7：INPAQ internal code
8：Packaging style
E - Embossed plastic tape, 7" reel

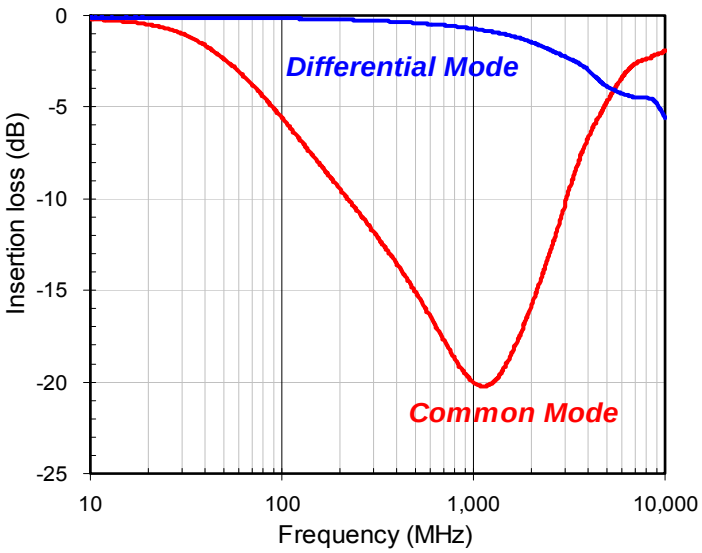
3.TYPICAL CHARACTERISTIC

HCM2012GH670

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

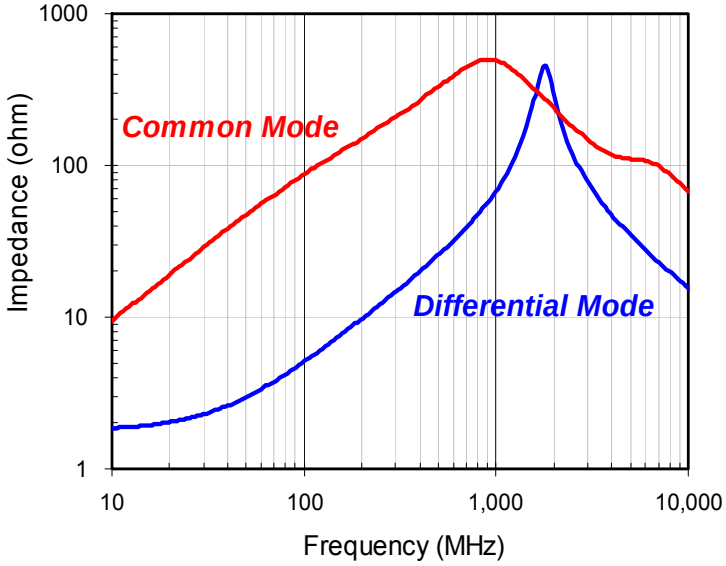


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

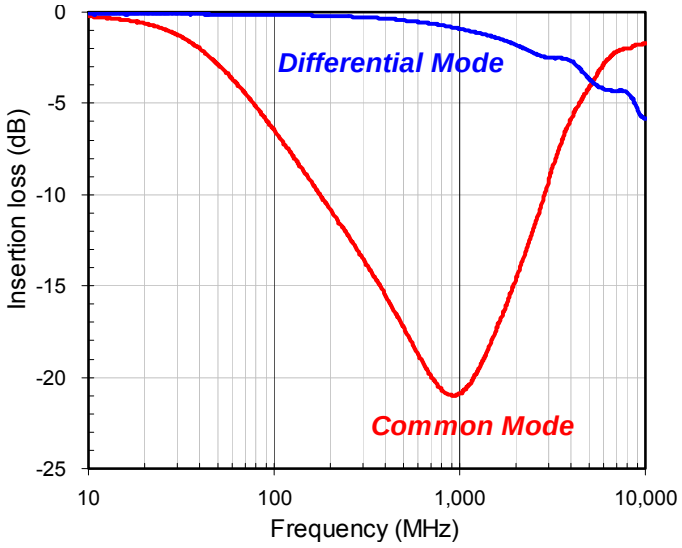


HCM2012GH900

IMPEDANCE vs. FREUQENCY CHARACTERISTICS

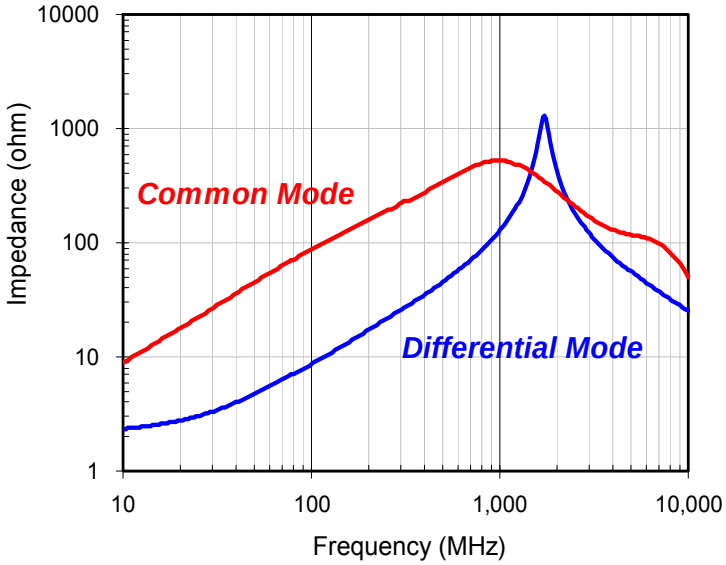


INSERTION LOSS vs. FREUQENCY CHARACTERISTICS

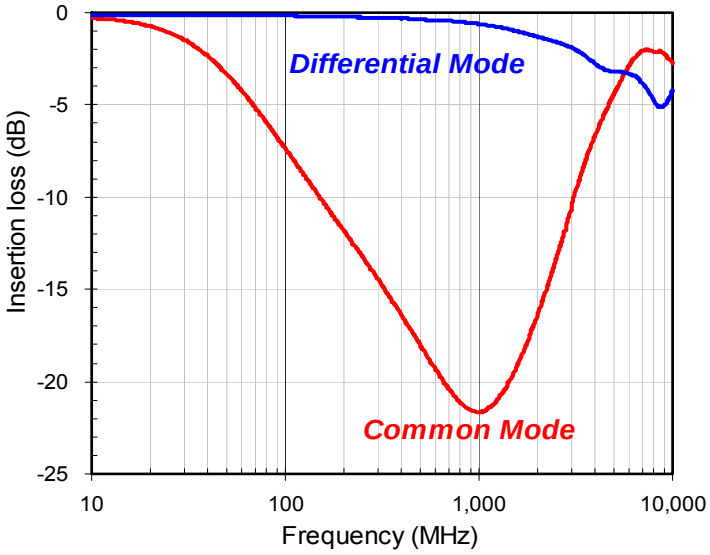


HCM2012GD900

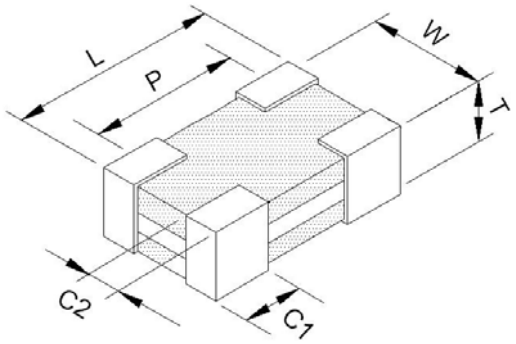
IMPEDANCE vs. FREUQENCY CHARACTERISTICS



INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



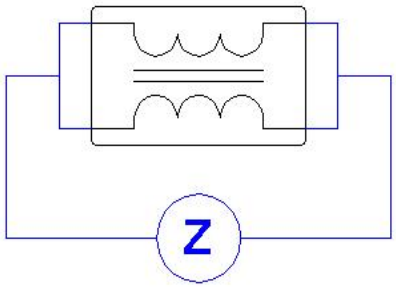
4.SHAPES AND DIMENSIONS



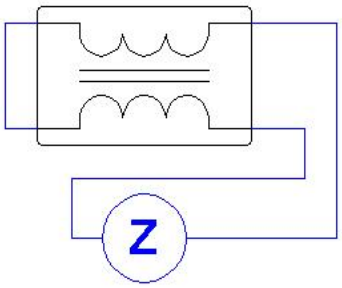
TYPE	Dimension
L	2.00±0.20
W	1.20±0.20
T	1.00±0.10
P	1.60±0.20
C1	0.40±0.20
C2	0.30±0.20
Unit：mm	

5.MEASURING CIRCUITS

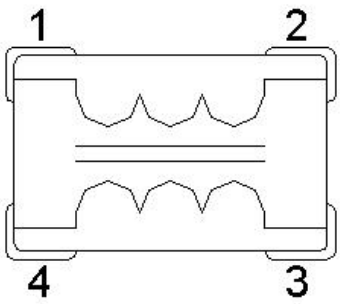
(A):Common mode

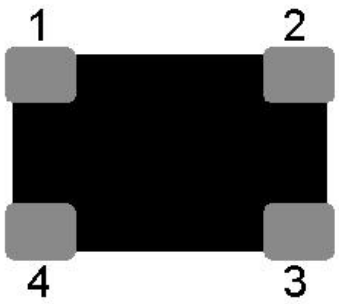


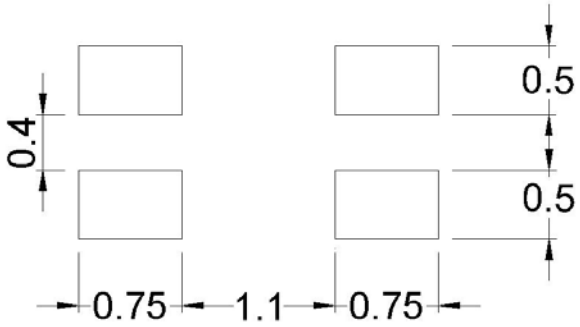
(B):Differential mode



6.CIRCUIT CONFIGURATION & LAYOUT PAD

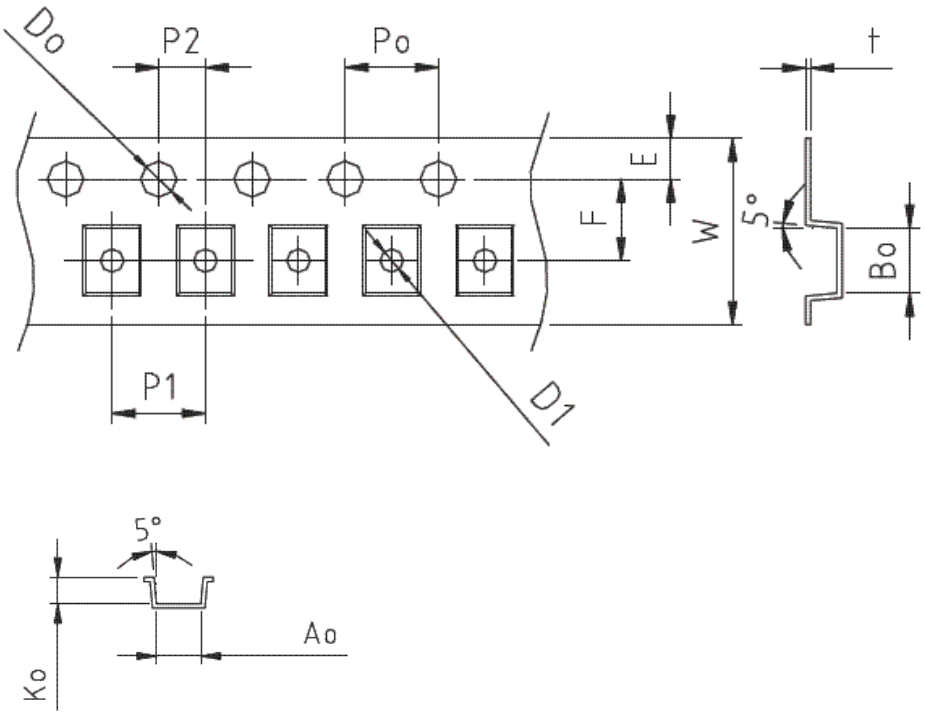






7.TAPE AND REEL SPECIFICATIONS/ TAPING DIMENSIONS

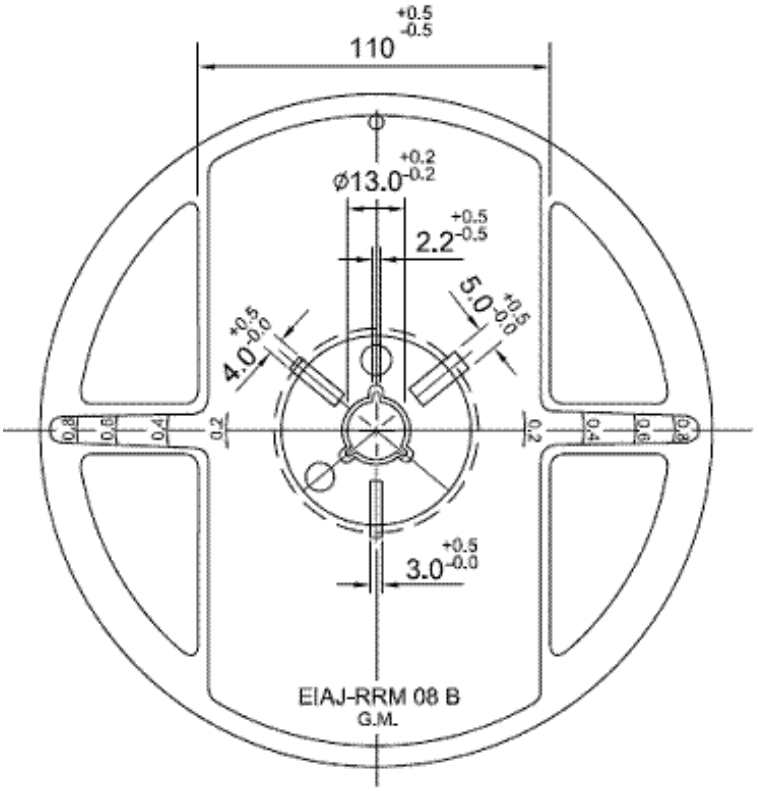
Type：Plastic Carrier

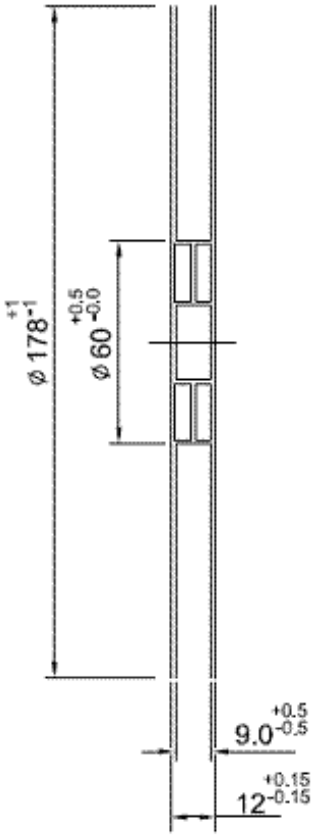


Unit：mm

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	2.30±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

8.REEL DIMENSIONS





Unit：mm

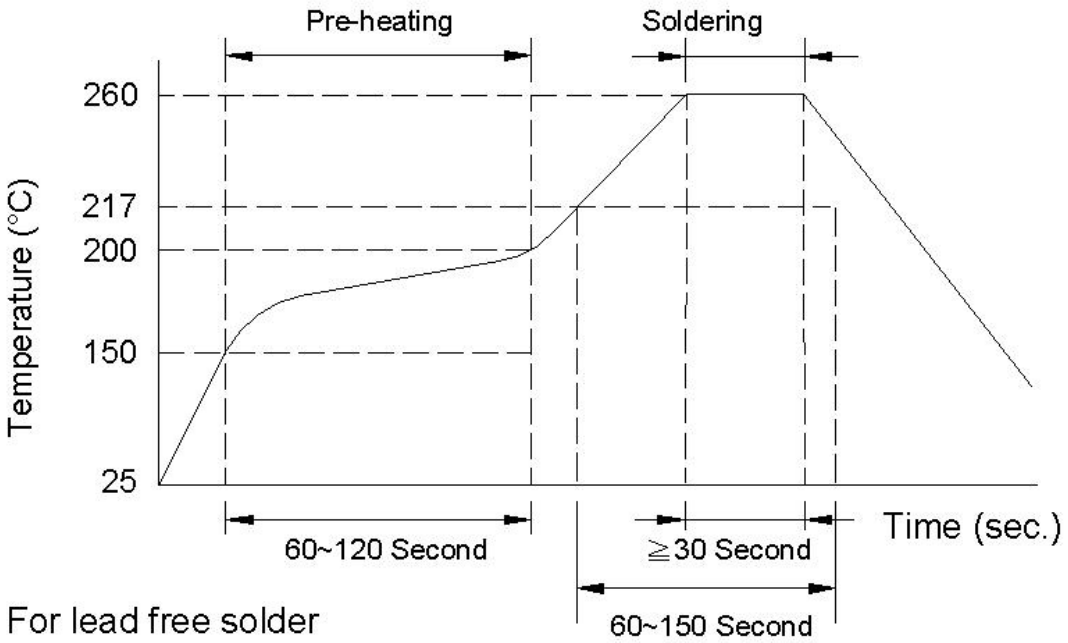
9.STANDARD QUANTITY FOR PACKAGING

Packaging style：Taping

Reel packaging quantity：3000 pcs/reel

Inner box：5 reel/inner box

10.RECOMMENDED SOLDERING CONDITIONS



11.GENERAL TECHNICAL DATA

Operating temperature range : - 40℃ ~ +85℃

Storage Condition : Less than 40℃ and 70% RH

Storage Time: 6 months Max.

Soldering method: Reflow or Wave Soldering

12.RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
Temperature Cycle	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 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

13.NOTE

All the products in this specification comply with RoHS 1.0 directive.