

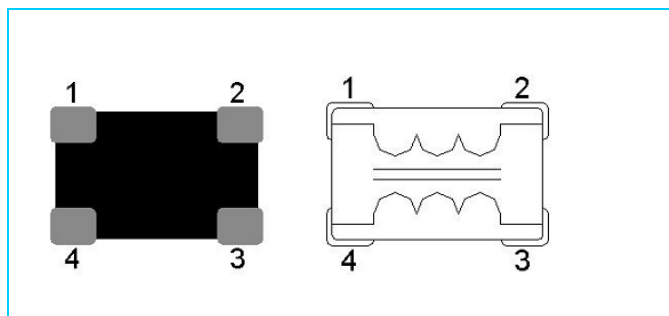
(Chip Common Mode Filter) Engineering Specification

HCM2012G Series

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.



PRODUCT DETAIL

Part Number	Imp.Com. (Ω) $\pm 25\%$ @100MHz	DCR Max. (Ω)	Rated Current Max.(m A)	Rated Voltage (V)	Insulation Resistance Min.(M Ω)
HCM2012GH670AE	67	1.0	200	10	100
HCM2012GH900AE	90	1.0	200	10	100
HCM2012GD900AE	90	1.0	200	10	100
HCM2012GD121AE	120	1.2	100	10	100
HCM2012GS500AE	50	1.0	100	10	100
Test Instruments	- Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER - HP4338 MILLIOHMMETER - Agilent E5071C ENA SERIES NETWORK ANALYZER - HP6632B SYSTEM DC POWER SUPPLY - Keithley 2410 1100V SOURCE METER				

PART NUMBER CODE

HCM **2012** **G** **□** **90** **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
- 6: Fixed decimal point (ex : 900=90 Ω)
- 7: UN internal code
- 8: Packaging style P – Embossed paper tape, 7" reel.

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HCM2012G Series

TYPICAL CHARACTERISTIC

HCM2012GH670A

Fig1. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

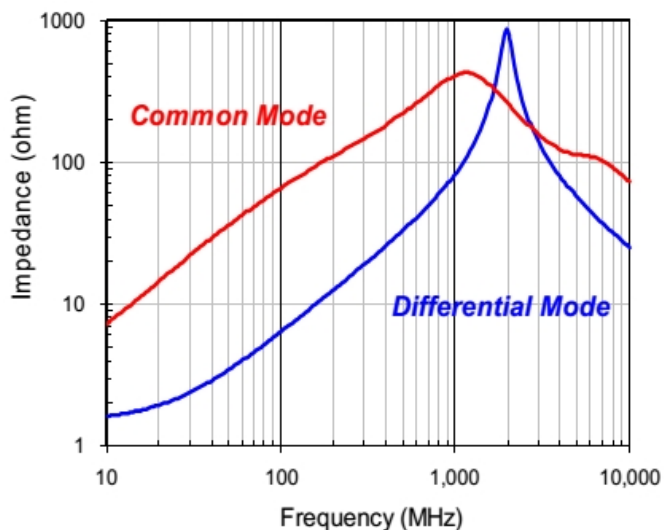
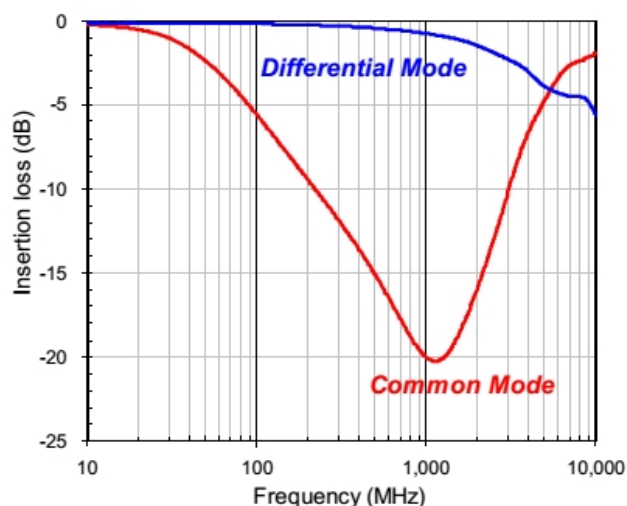


Fig2. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



HCM2012GH900A

Fig3. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

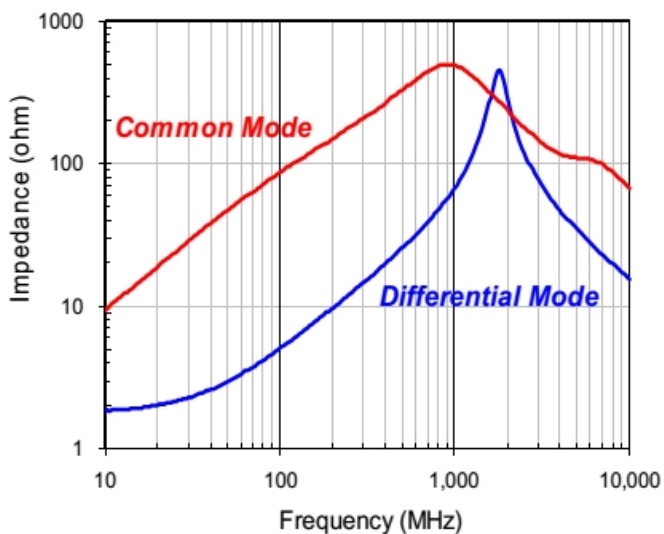
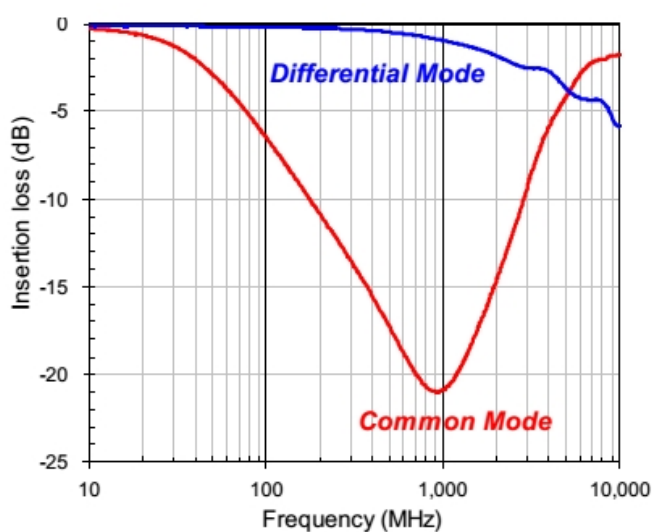


Fig4. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



(Chip Common Mode Filter) Engineering Specification

HCM2012G Series

HCM2012GD900A

Fig5. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

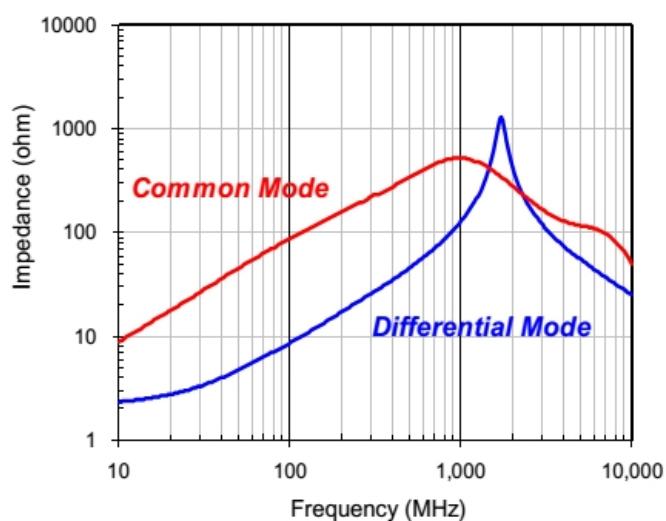
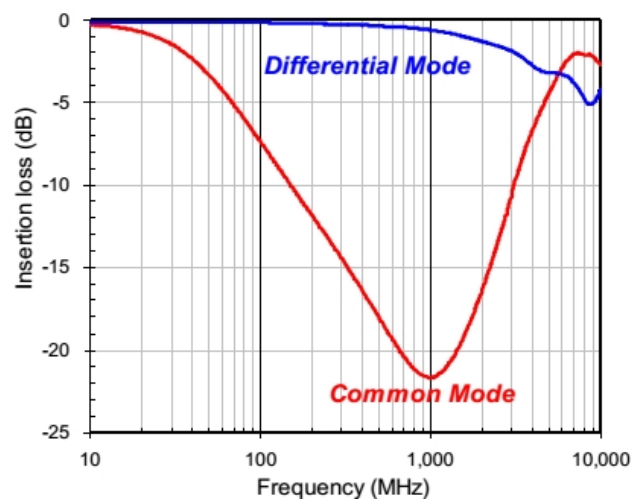


Fig6. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



HCM2012GD121A

Fig7. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

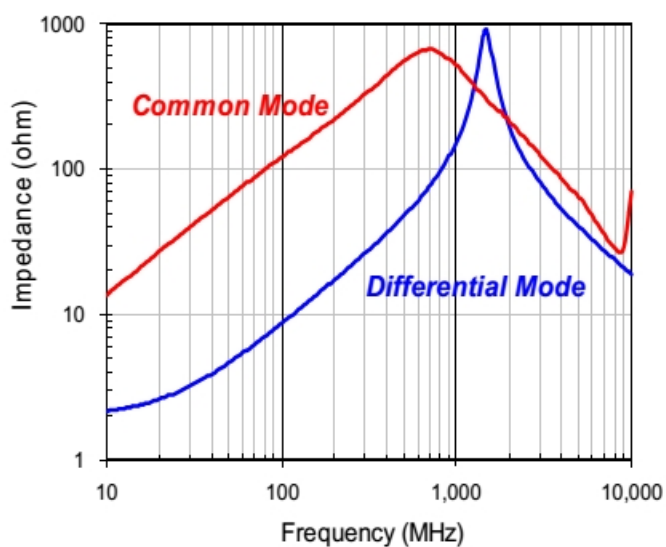
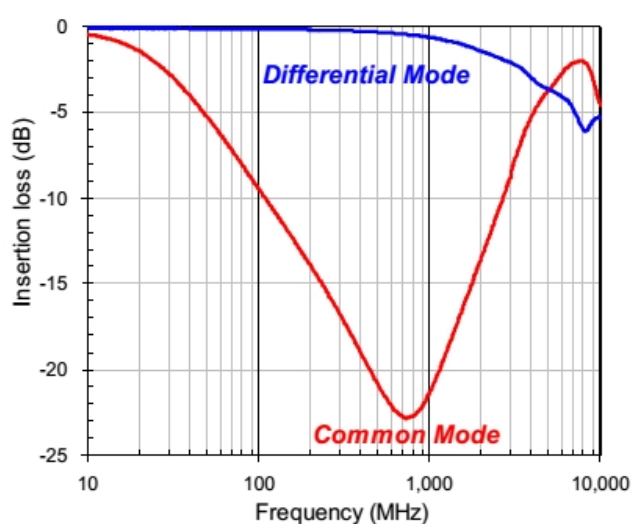


Fig8. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



(Chip Common Mode Filter) Engineering Specification

HCM2012G Series

Fig9. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

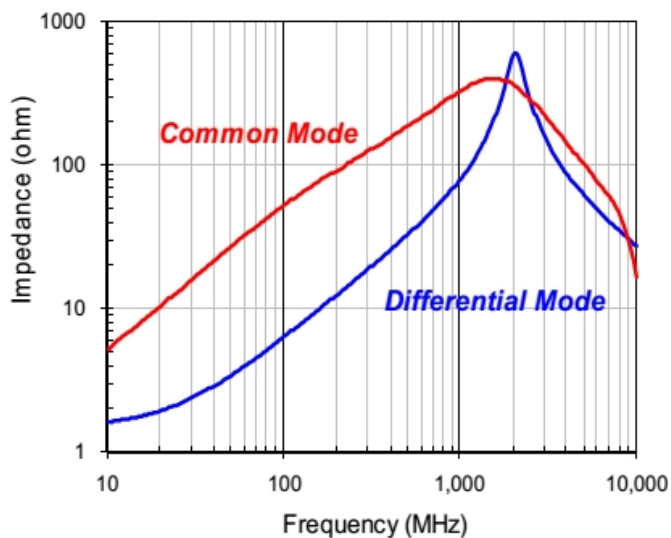
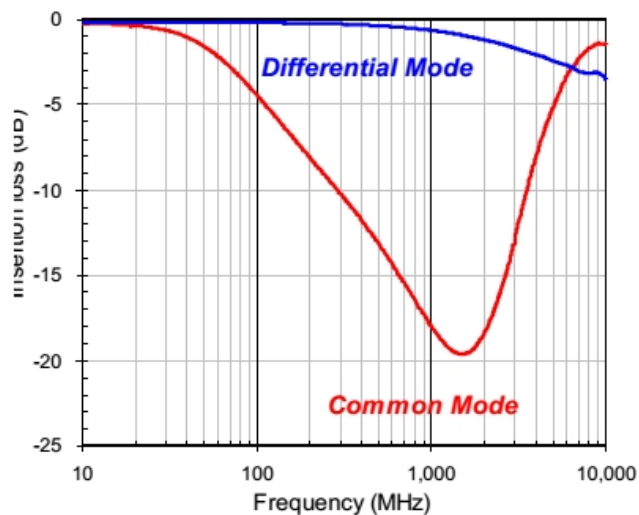
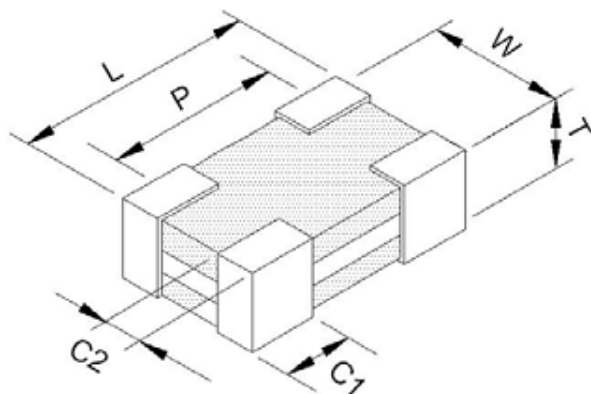


Fig10. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

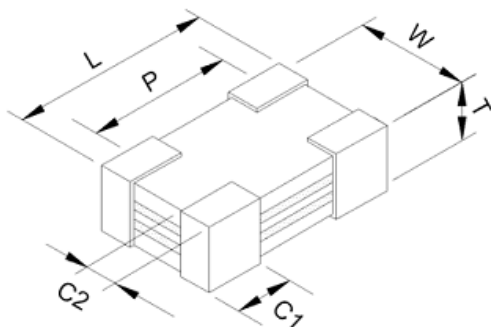


SHARES AND DIMENSIONS

HCM2012GH & GD SERIES



HCM2012GS SERIES



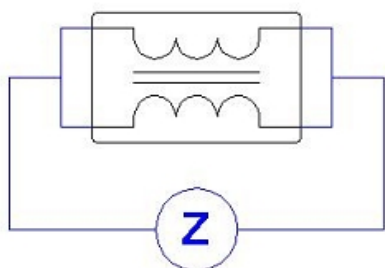
TYPE	Dimension
L	1.25±0.10
W	1.00±0.10
T	0.50±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15
Unit : mm	

(Chip Common Mode Filter) Engineering Specification

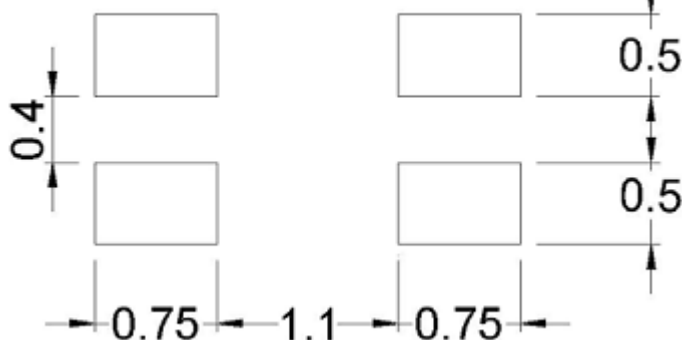
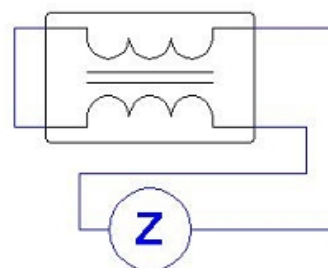
HCM2012G Series

MEASURING CIRCUIT / CIRCUITS CONFIGURATION & LAYOUT PAD

(A):Common mode



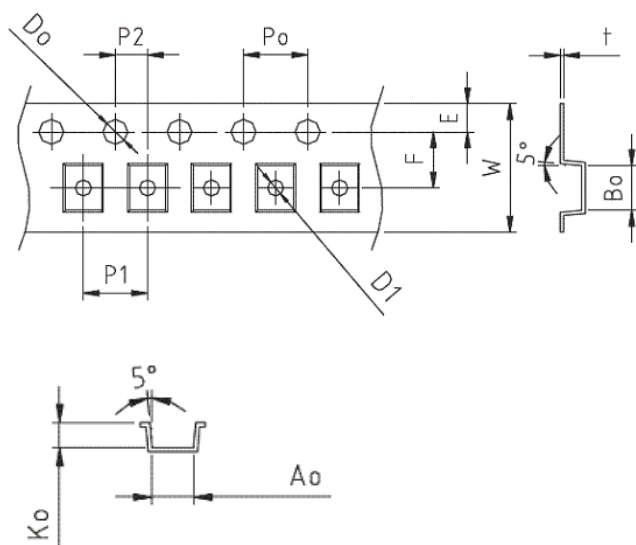
(B):Differential mode



TAPE AND REEL SPECIFICATIONS / TAPING DIMENSIONS

Type : Paper Carrier

Unit : mm

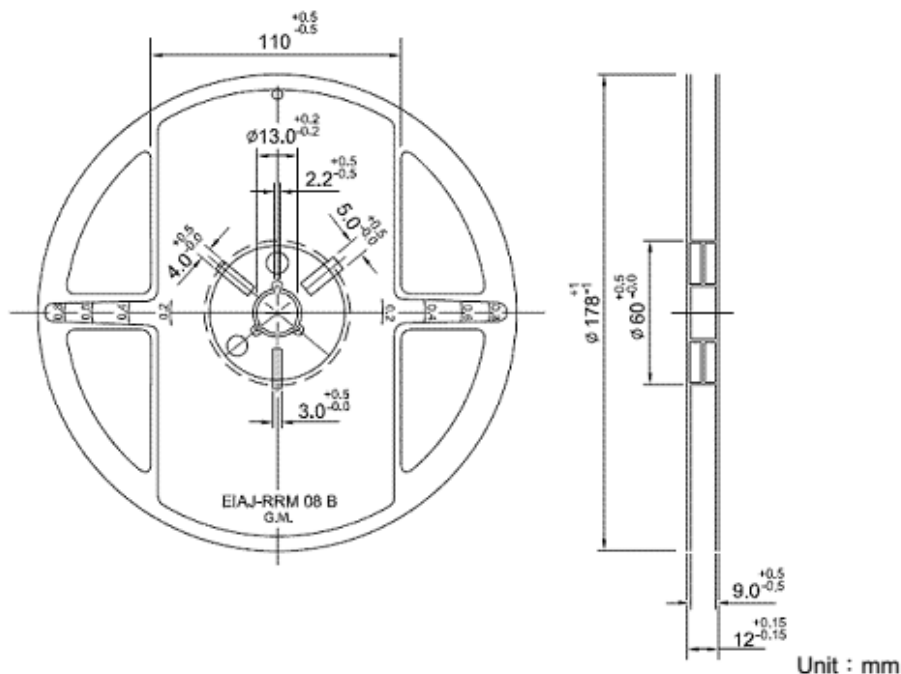


Symbol	size	symbol	size
W	8.00±0.10	P0	4.00±0.10
P1	4.00±0.10	P2	2.00±0.10
E	1.75±0.10	B0	2.30±0.10
F	3.50±0.10	A0	1.40±0.10
D0	1.55±0.05	K0	1.13±0.10
D1	1.00±0.05	t	0.22±0.05

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REEL DIMENSIONS



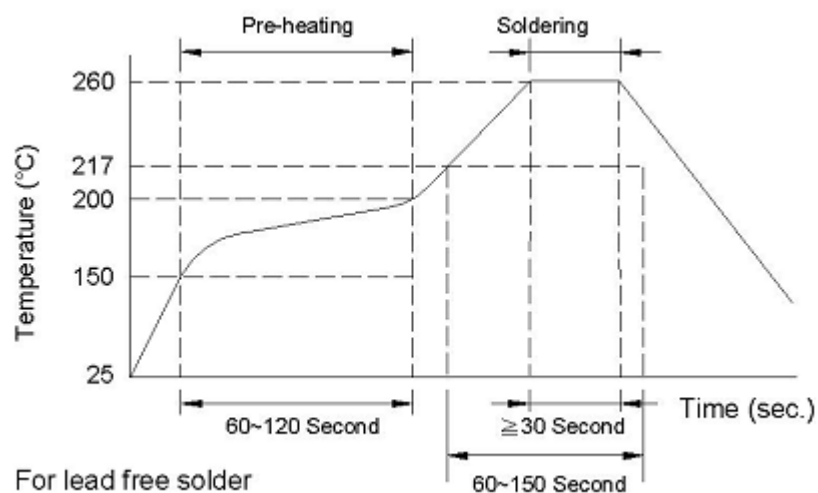
STANDARD QUANTITY FOR PACKAGING

Packaging style : Taping

Reel packaging quantity : 3000 pcs/reel

Inner box : 5 reel/inner box

RECOMMENDED SOLDERING CONDITIONS



GENERAL TECHNICAL DATA

Operation temperature range : -40°C ~ +85°C

Storage Condition : Less than 40°C and 70% RH

Storage Time: 6 months Max.

Soldering method: Reflow or Wave Soldering

(Chip Common Mode Filter) Engineering Specification

HCM2012G Series

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.