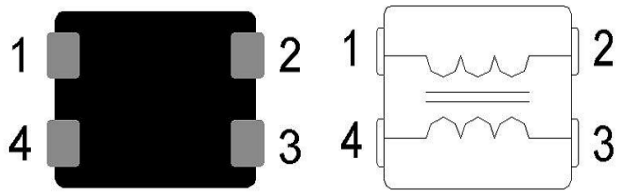
LOW PROFILE TYPE (Chip Common Mode Filter) Engineering Specification

HCM1012G 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)±25% @100MHz	DCR Max. (Ω)	Rated Current Max.(m A)	Rated Voltage (V)	Insulation Resistance Min.(MΩ)
HCM1012GH900A05P	90	1.0	100	10	100
HCM1012GD900A05P	90	1.5	100	10	100
HCM1012GD670A05P	67	1.5	100	10	100
HCM1012GD900B05P	90	3.0	100	10	100
Test Instruments	◆ Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER ◆ HP4338 MILLIOHMMETER ◆ Agilent E5071C ENA SERIES NETWORK ANALYZER ◆ Keithley 2410 1100V SOURCE METER				

PART NUMBER CODE

HCM	1012	G	□	90	0	□	05	P
1	2	3	4	5	6	7	8	9

1: Series name
2: Dimensions L*W
3: Material code
4: Product identification number
5: Impedance value
6: Fixed decimal point (ex : 900=90Ω)
7: UN internal code
8: Dimension T (ex : 05=0.50mm)
9: Packaging style P – Embossed paper tape, 7” reel.

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TYPICAL CHARACTERISTIC

HCM1012GH900A05

Fig1. IMPEDANCE vs. FREUQENCY CHARACTERISTICS

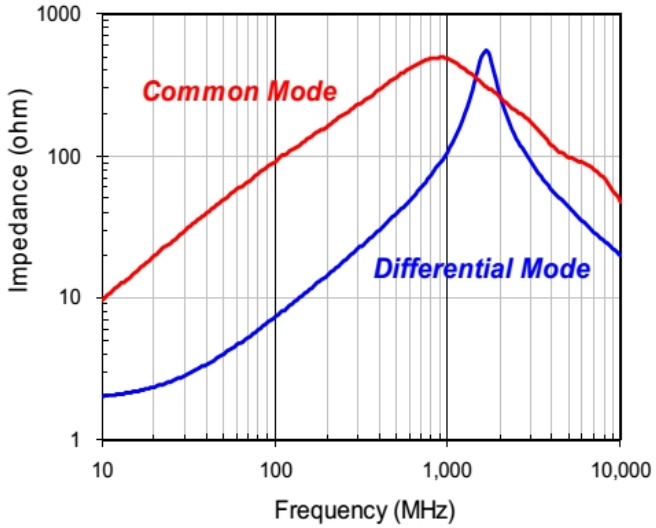
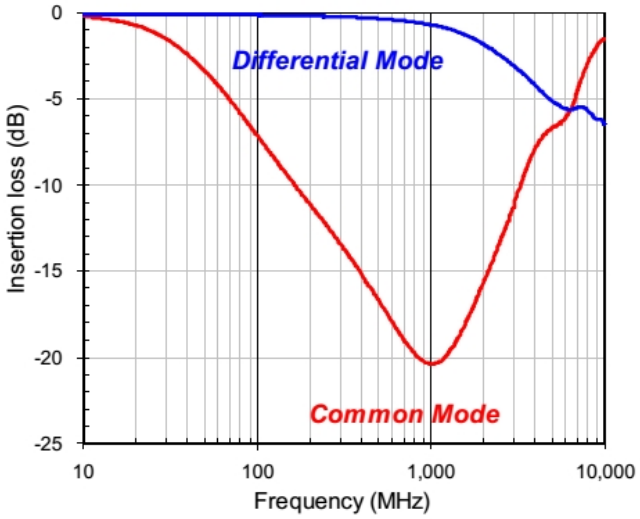


Fig2. INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



HCM1012GD900A05

Fig3. IMPEDANCE vs. FREUQENCY CHARACTERISTICS

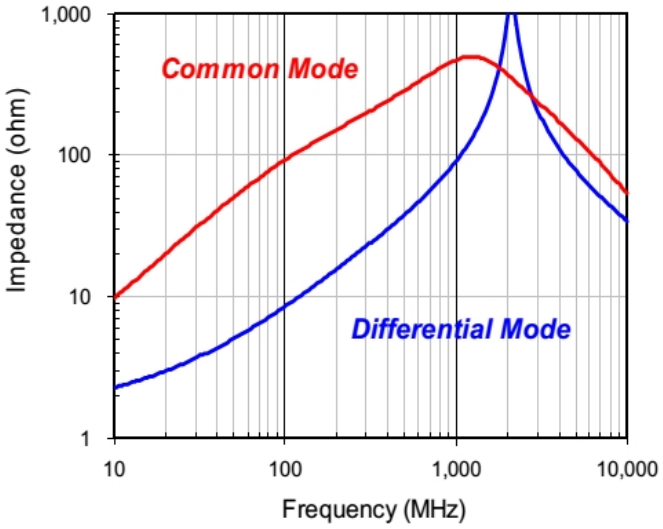
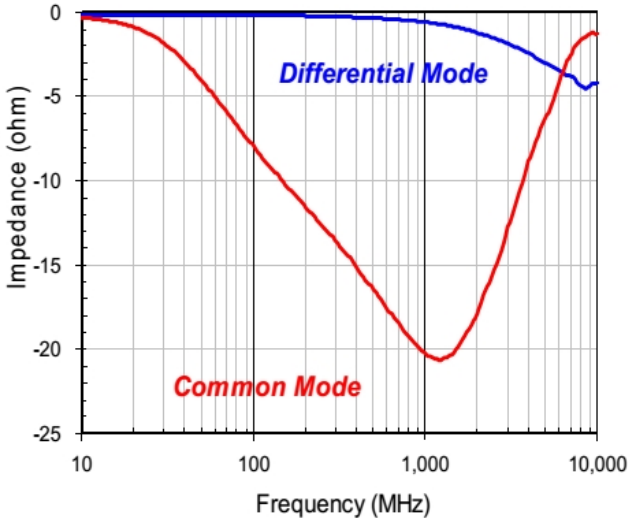


Fig4. INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



LOW PROFILE TYPE (Chip Common Mode Filter) Engineering Specification

HCM1012G Series

HCM1012GD670A05

Fig5. IMPEDANCE vs. FREUQENCY CHARACTERISTICS

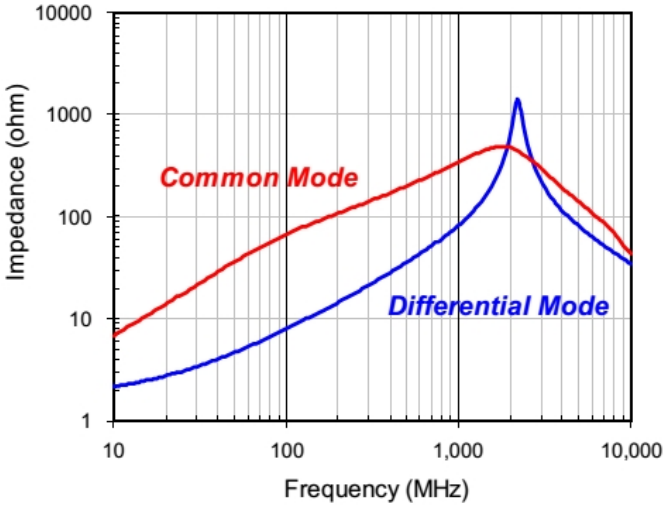
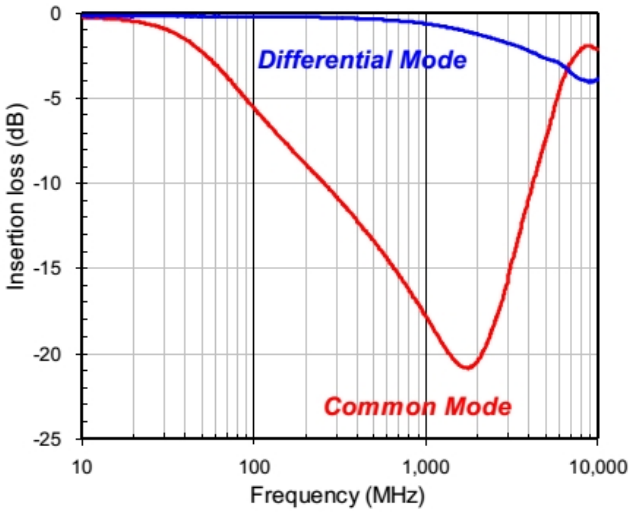


Fig6. INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



HCM1012GD900B05

Fig7. IMPEDANCE vs. FREUQENCY CHARACTERISTICS

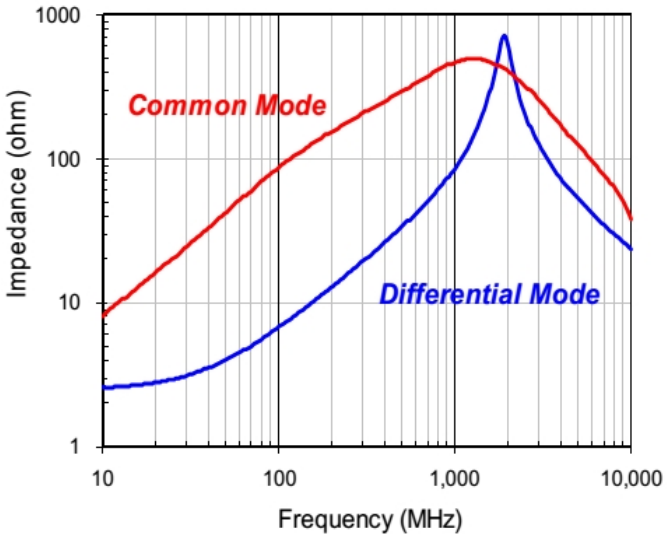
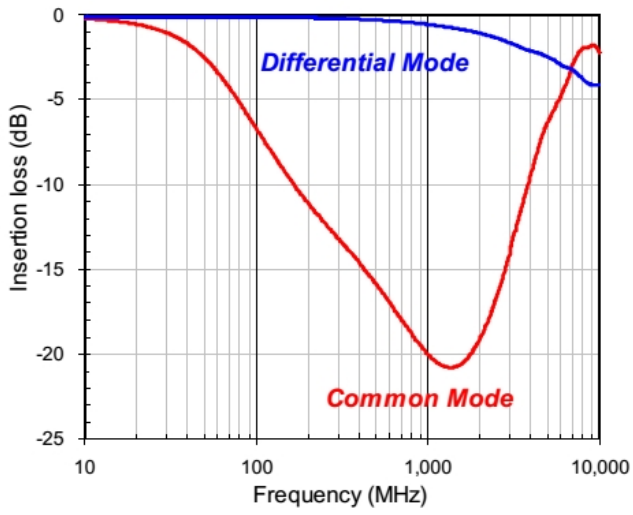


Fig8. INSERTION LOSS vs. FREUQENCY CHARACTERISTICS



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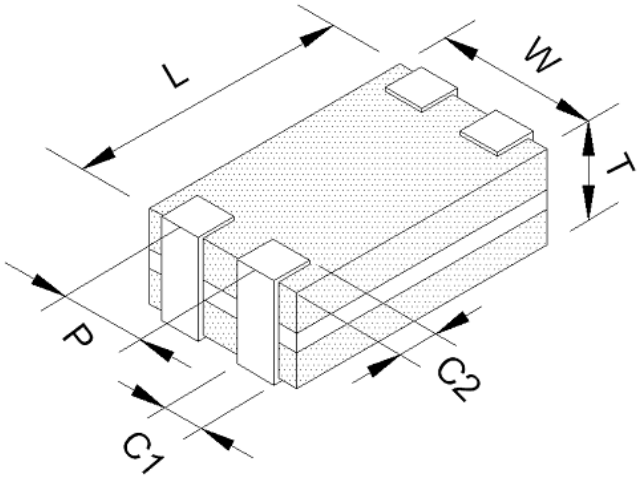
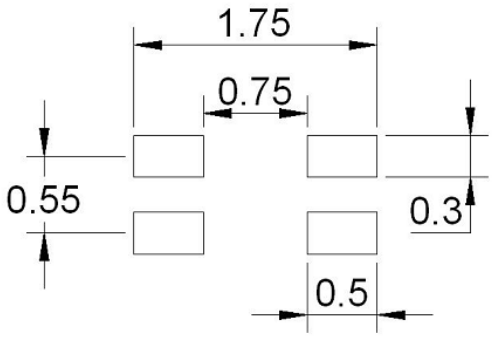
HCM1012G Series

SHARES AND DIMENSIONS



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	

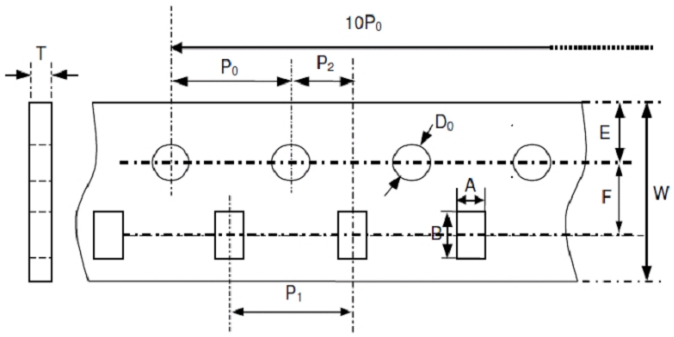
CIRCUIT CONFIGURATION & LAYOUT PAD



TAPE AND REEL SPECIFICATIONS / TAPING DIMENSIONS

Type : Paper Carrier

Unit : mm



Symbol	size	symbol	size
A	1.20±0.05	Po	4.00±0.10
B	1.45±0.05	P1	4.00±0.10
W	8.00±0.10	P2	2.00±0.05
E	1.75±0.05	Do	1.55±0.05
F	3.50±0.05	T	0.60±0.03

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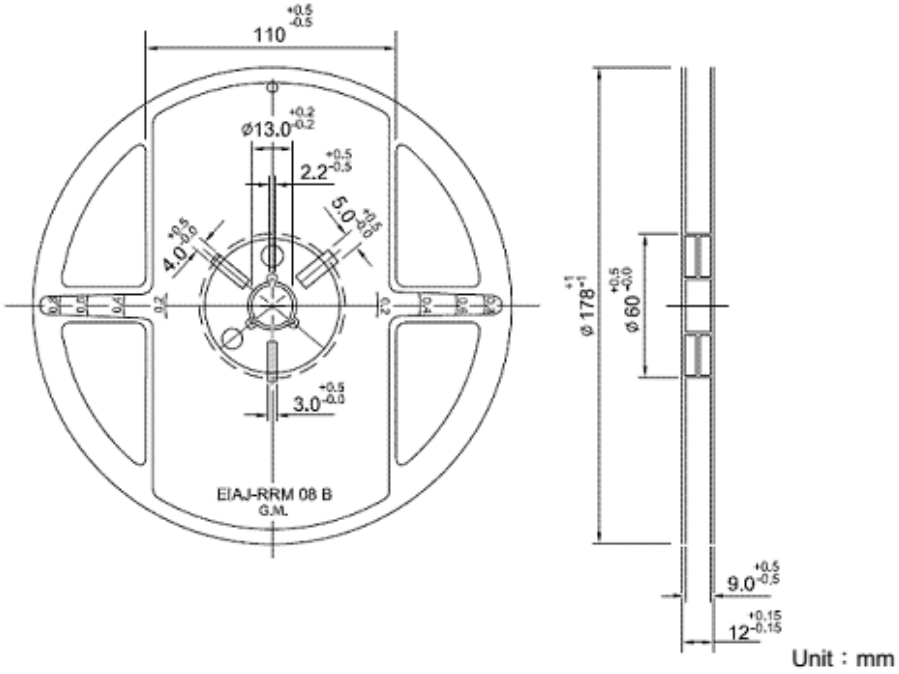
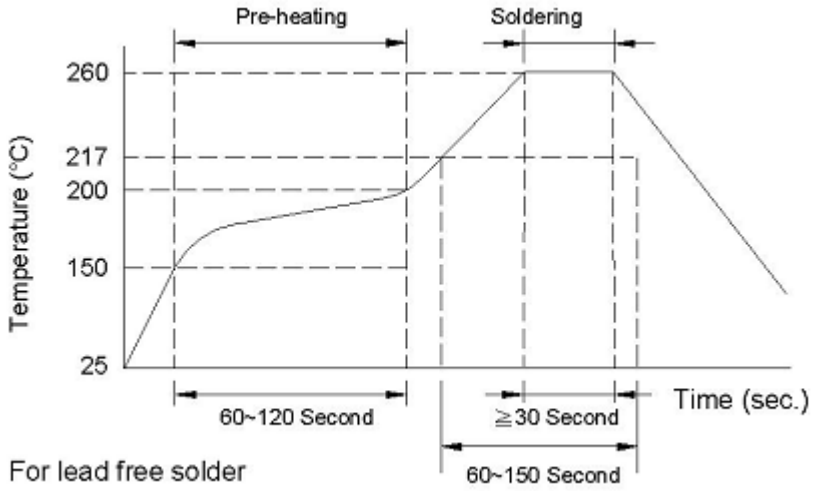
REEL DIMENSIONS



STANDARD QUANTITY FOR PACKAGING
Packaging style : Taping
Reel packaging quantity : 4000 pcs/reel
Inner box : 5 reel/inner box

RECOMMENDED SOLDERING CONDITIONS



GENERAL TECHNICAL DATA
Opertation temperatur range : -40℃ ~+85℃
Storage Condition : Less than 40℃ and 70% RH
Storage Time: 6 months Max.
Soldering method: Reflow or Wave Soldering

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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