



Product Engineering Specification HCM1012G SERIES (Chip Common Mode Filter)

■ 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 or HDMI, etc., serial interface in mobile device.

This product belongs to the industrial grade standard, not the vehicle gauge product!
Cannot use auto parts, if the customer is not expressly informed and privately used to auto parts, produce any consequences, the original is not responsible for after-sales service, thank you!

■ PRODUCT DETAIL

Part No.	Imp. Com. (Ω) \pm 25% @100MHz	DCR Max. (Ω)	Rated Current Max. (mA)	Rated Voltage (V)	Insulation Resistance Min.(M Ω)
HCM1012GD500A05A	50	1.5	100	10	100
HCM1012GD670A05A	67	1.5	100	10	100
HCM1012GD900A05A	90	1.5	100	10	100
HCM1012GD900B05A	90	3.0	100	10	100
HCM1012GS150A05A	15	0.8	100	10	100
Test Instruments	<input type="checkbox"/> Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER <input type="checkbox"/> HP4338 MILLIOHMMETER <input type="checkbox"/> Agilent E5071C ENA SERIES NETWORK ANALYZER <input type="checkbox"/> Keithley 2410 1100V SOURCE METER				



■ PART NUMBER CODE

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

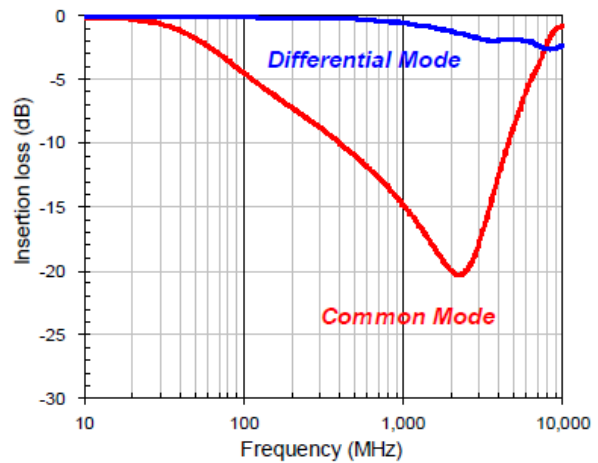
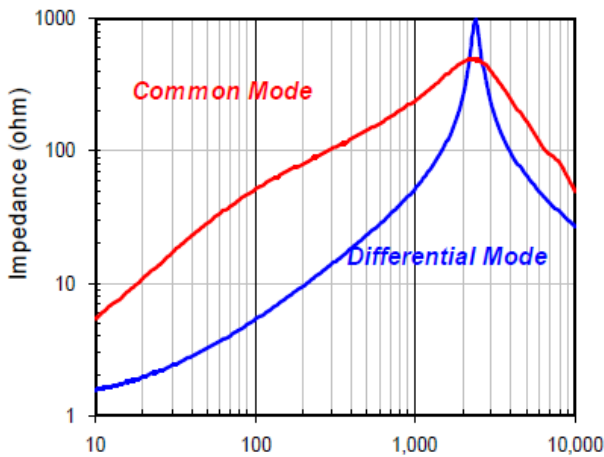
- 1 Series name
- 2 Dimension : L *W
- 3 Material code
- 4 Product identification number
- 5 Impedance value
- 6 Fixed decimal point } (ex : 900=90Ω)
- 7 Internal code
- 8 Dimension T (ex: 05 =0.5 mm)
- 9 Soldering: Green Parts: A— Lead-Free

■ IMPEDANCE VS. FREQUENCY CHARACTERISTICS

HCM1012GD500A05A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

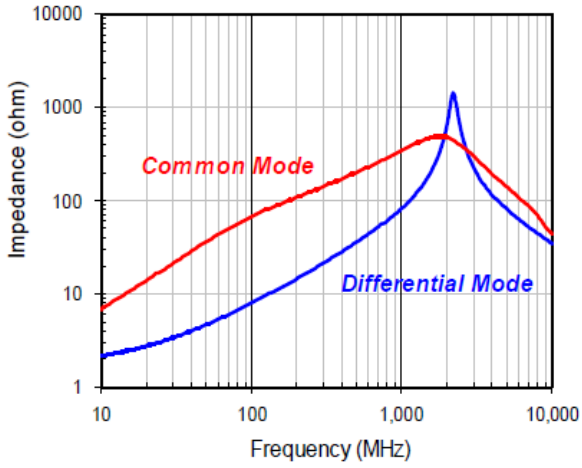
INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



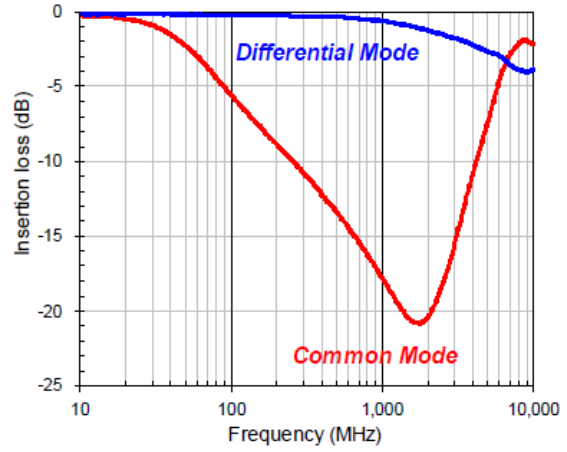


HCM1012GD670A05A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS

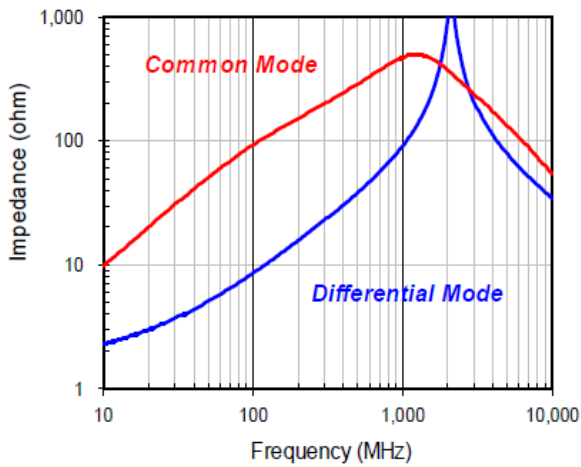


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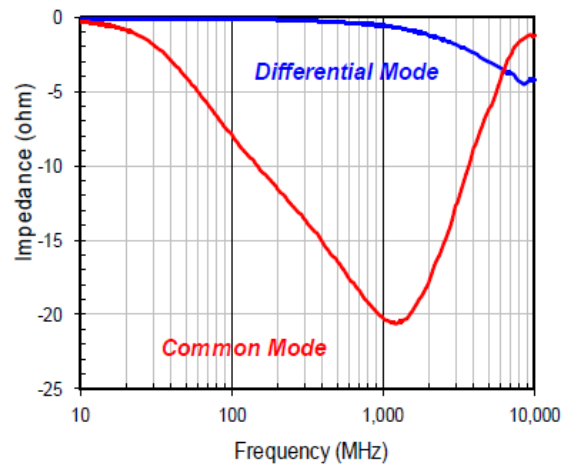


HCM1012GD900A05A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



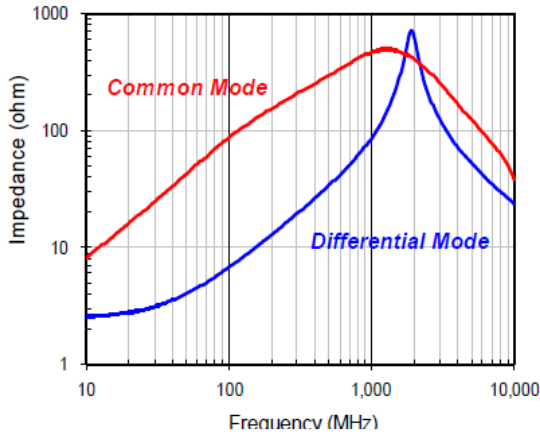
INSERTION LOSS vs. FREQUENCY CHARACTERISTICS



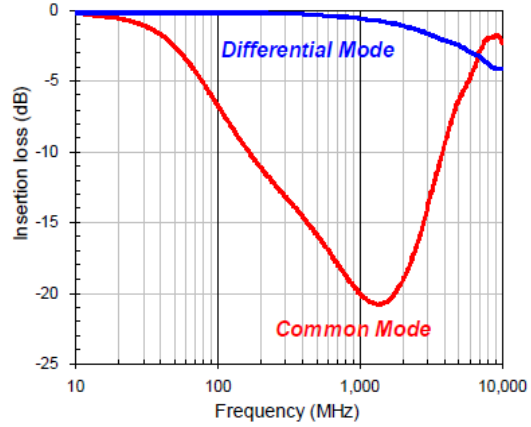


HCM1012GD900B05A

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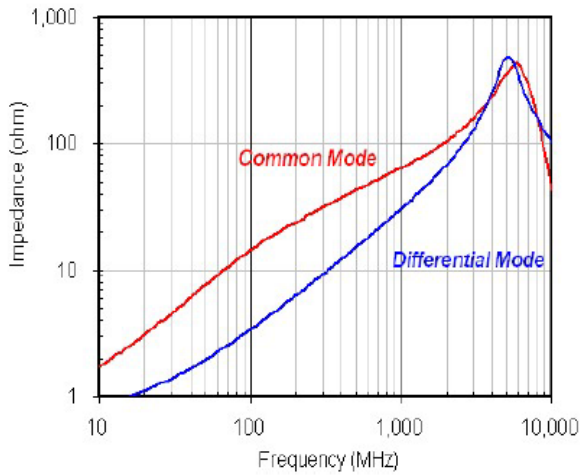


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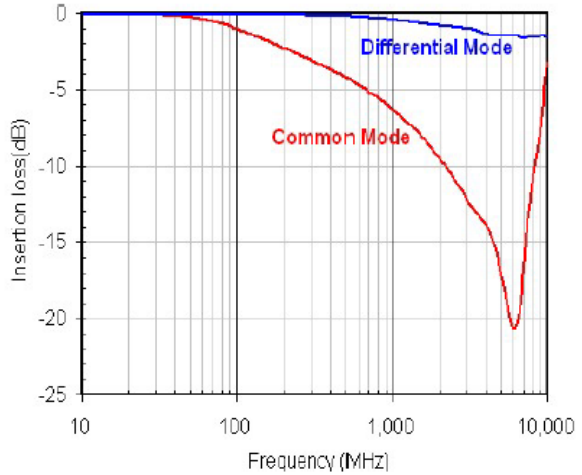


HCM1012GS150A05A

IMPEDANCE vs. FREQUENCY CHARACTERISTICS



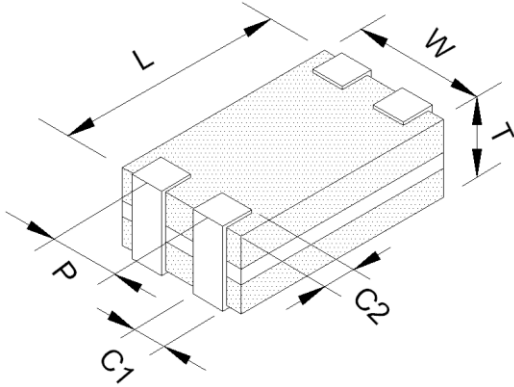
INSERTION LOSS vs. FREQUENCY CHARACTERISTICS





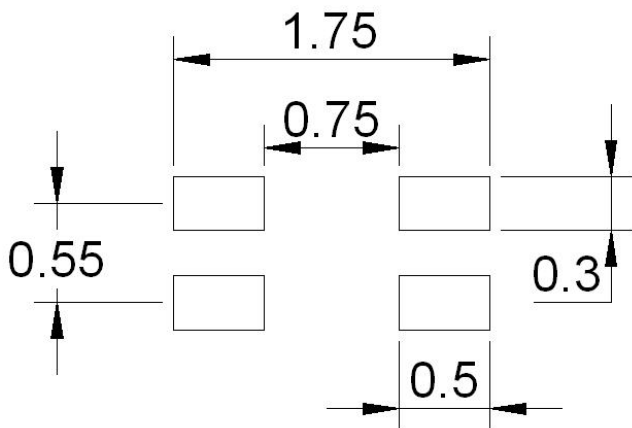
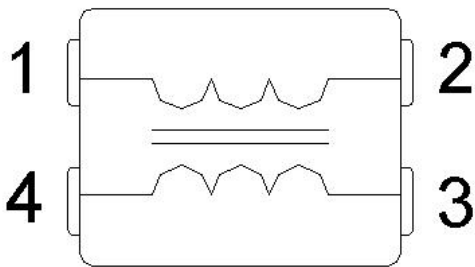
SHAPES AND DIMENSIONS

Unit: mm



TYPE	Dimension
L	1.25±0.10
W	1.00±0.10
T	0.50±0.10
P	0.55±0.10
C1	0.30±0.10
C2	0.20±0.15

CIRCUIT CONFIGURATION & LAYOUT PAD

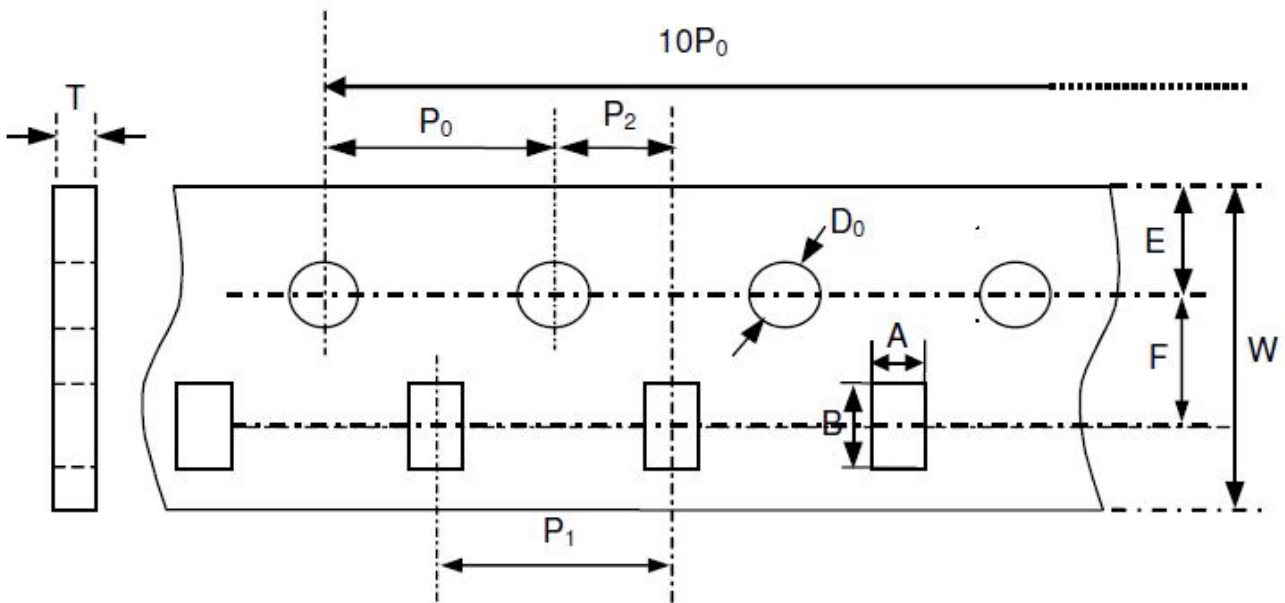




■ TAPE AND REEL SPECIFICATIONS

1. Taping Dimensions

TYPE : PAPER CARRIER



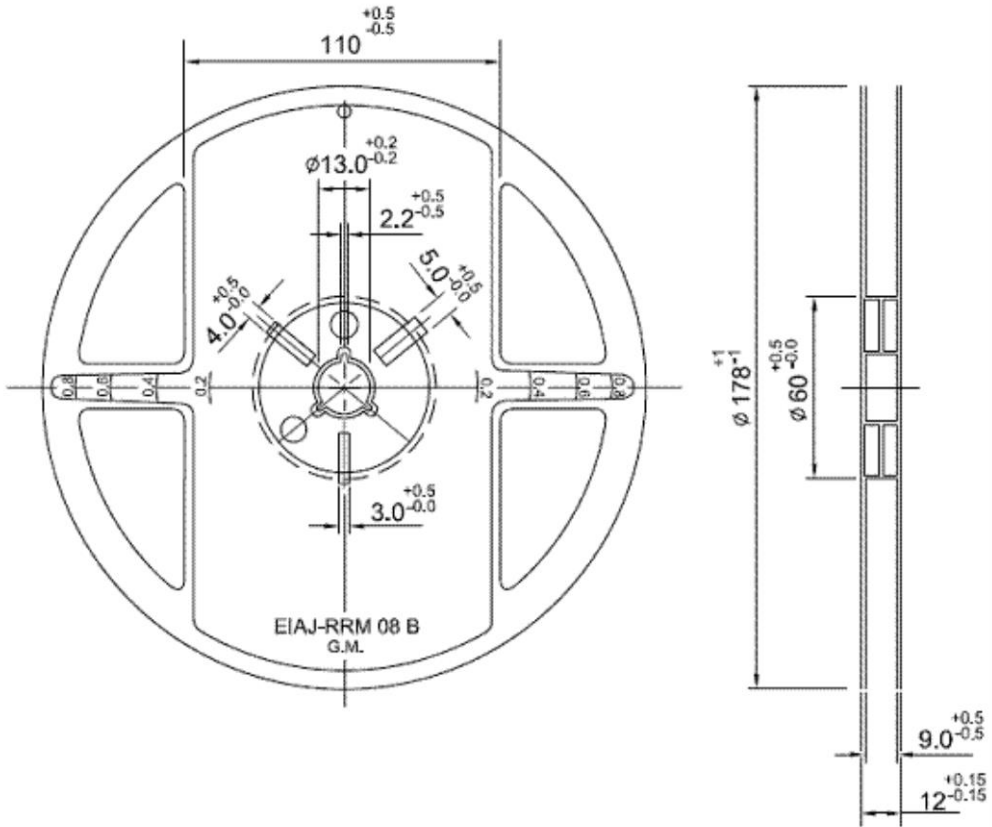
Unit : mm

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 ±0.10	Do	1.55 ±0.05
F	3.50 ±0.05	T	0.60 ±0.03



2. REEL DIMENSIONS

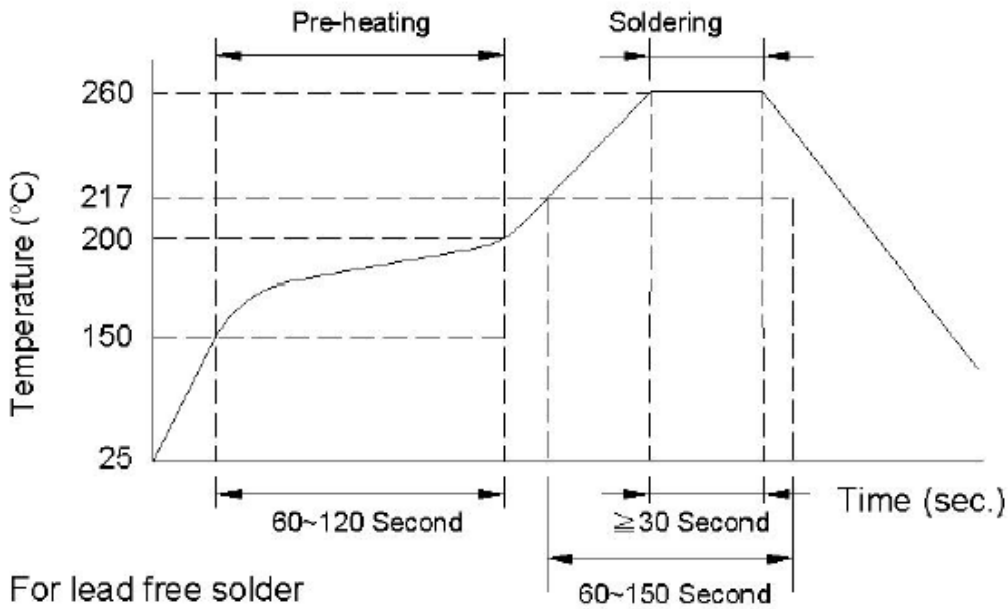
Unit: mm



Reel Packaging Quantity		
PART SIZE (EIA SIZE)		1012 (0504)
7" REEL	Qty. (pcs)	4,000



■ RECOMMENDED SOLDERING CONDITIONS



■ GENERAL TECHNICAL DATA

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

Storage temperature : Less than 40°C and 70%RH.

Storage Time: 6 months Max.

Soldering method: Reflow



■ RELIABILITY AND TEST CONDITION

Test item	Test Condition	Criteria
Temperature Cycle	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 $\pm 5^\circ\text{C}$ B. Test time: 1000 hrs C. Applied current: Full rated current Measurement: at ambient temperature 24 hours after test completion	A. No mechanical damage B. Impedance value should be within $\pm 20\%$ of the initial value
Biased Humidity	A. Temperature: 40 $\pm 2^\circ\text{C}$ B. Humidity: 90-95 % RH C. Test time: 1000 hrs D. Applied current: Full rated current Measurement: at ambient temperature 24 hours 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 $\pm 5^\circ\text{C}$ 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 $\pm 20\%$ of the initial value
Steam Aging Test	A. Temperature : 93 $\pm 2^\circ\text{C}$ B. Test time : 4 hrs C. Solder temperature : 235 $\pm 5^\circ\text{C}$ D. Flux : Rosin E. DIP time : 5 ± 1 sec	More than 95 % of terminal electrode should be covered with new solder