

(Chip Common Mode Filter Plus ESD function) Engineering Specification

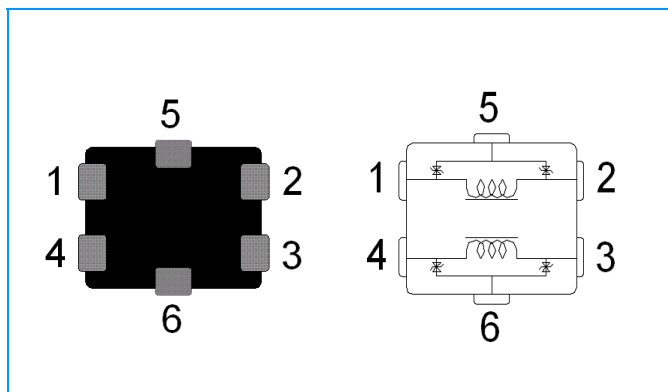
HCE1012GH900BP

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

Common mode filter plus ESD function

MIPI, MHL serial interface in mobile device



PRODUCT DETAIL

Part Number	Imp.Com. (Ω) ±25% @100MHz	DCR Max. (Ω)	Rated Current Max.(mA)	Rated Voltage (V)	Insulation Resistance Min.(MΩ)	Capacitance @0.5V 1MHz Max(pF)	Leakage Current@5V Max(μA)	Trigger Voltage Typ. (V)	Clamping Voltage Typ. (V)
HCE1012GH900BP	90	1.5	100	10	100	1.3	1	400	50
Test Instruments	- Agilent E4991A RF IMPEDANCE / MATERIAL ANALYZER - HP4338 MILLIOHMMETER - Agilent E5071C ENA SERIES NETWORK ANALYZER - Keithley 2410 1100V SOURCE METER - HP6632B SYS TEM DC POWER SUPPLY - Meet IEC61000-4-2 level 4: contact Discharge 8KV / Air Discharge 15KV								

PART NUMBER CODE

HCE **1012** **G** **□** **90** **0** **□** **P**

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=90Ω)

7: UN internal code

8: Packaging style P – Embossed paper tape, 7" reel.

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TYPICAL CHARACTERISTIC

Fig1. IMPEDANCE vs. FREQUENCY CHARACTERISTICS

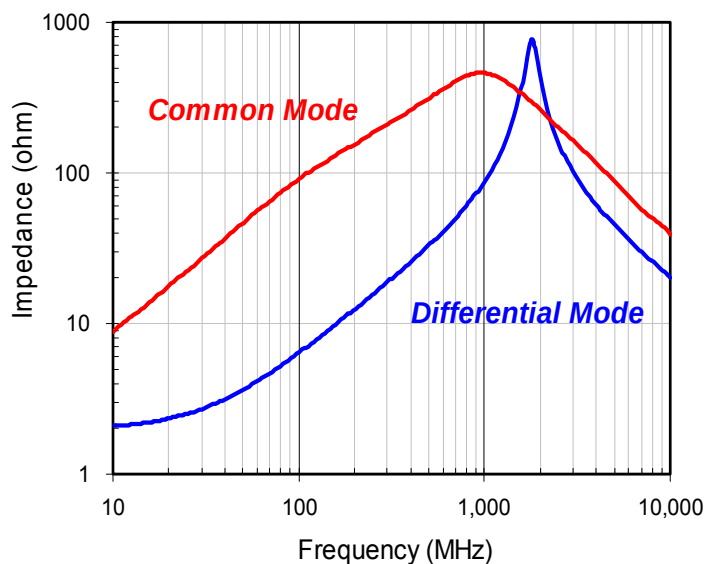
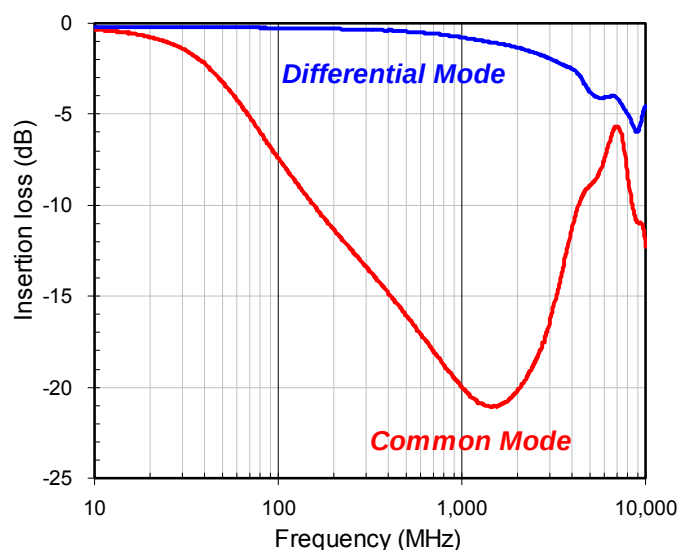
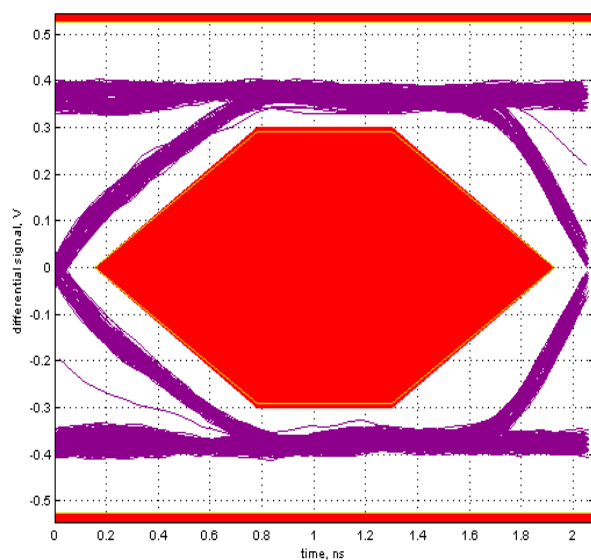


Fig2. INSERTION LOSS vs. FREQUENCY CHARACTERISTICS

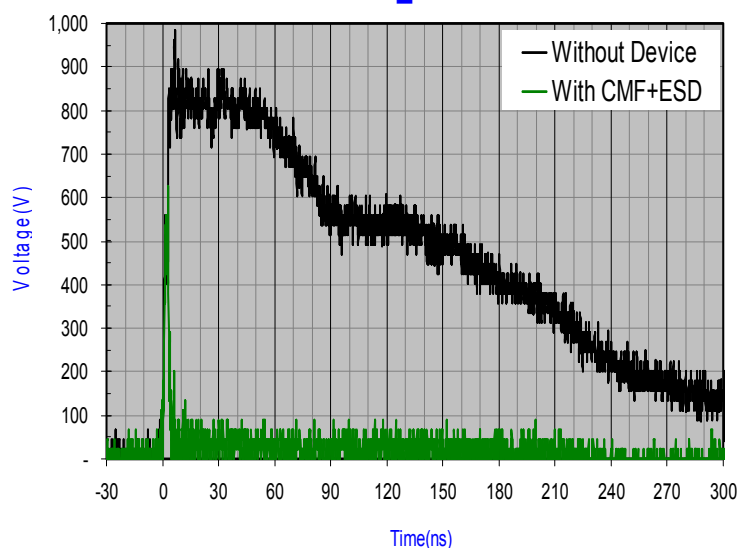


Eye pattern USB 2.0 high speed



ESD Wave forms

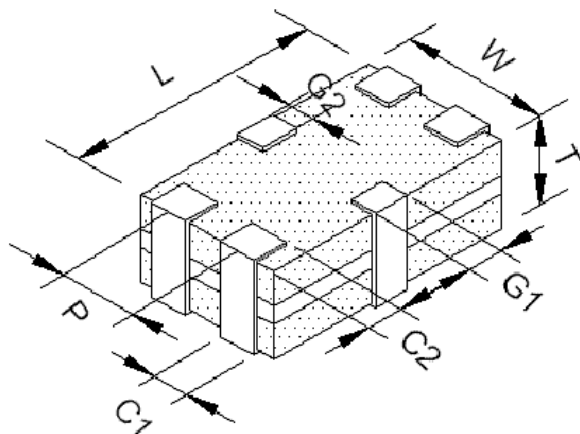
IEC 8KV_ESD Contact



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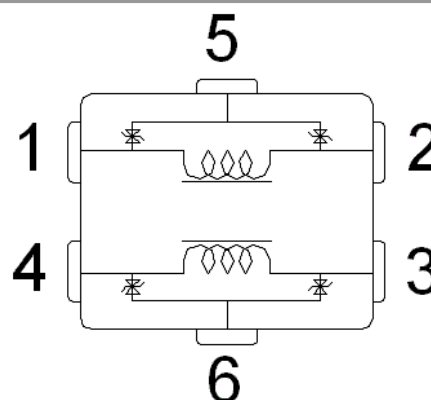
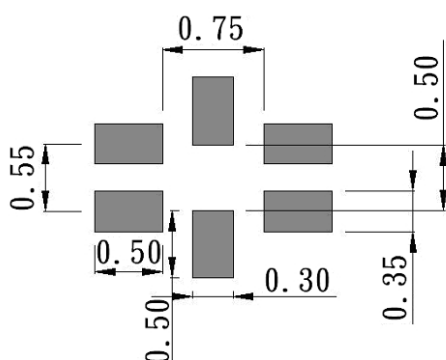
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SHARES AND DIMENSIONS



TYPE	Dimension
L	1.25±0.10
W	1.00±0.10
T	0.60±0.10
P	0.50±0.10
C1	0.30±0.10
C2	0.20±0.15
G1	0.30±0.15
G2	0.20±0.15
Unit : mm	

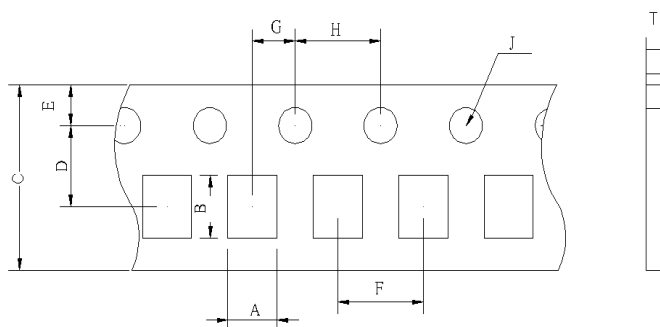
CIRCUIT CONFIGURATION & LAYOUT PAD



TAPE AND REEL SPECIFICATIONS / TAPING DIMENSIONS

Type : Paper Carrier

Unit : mm

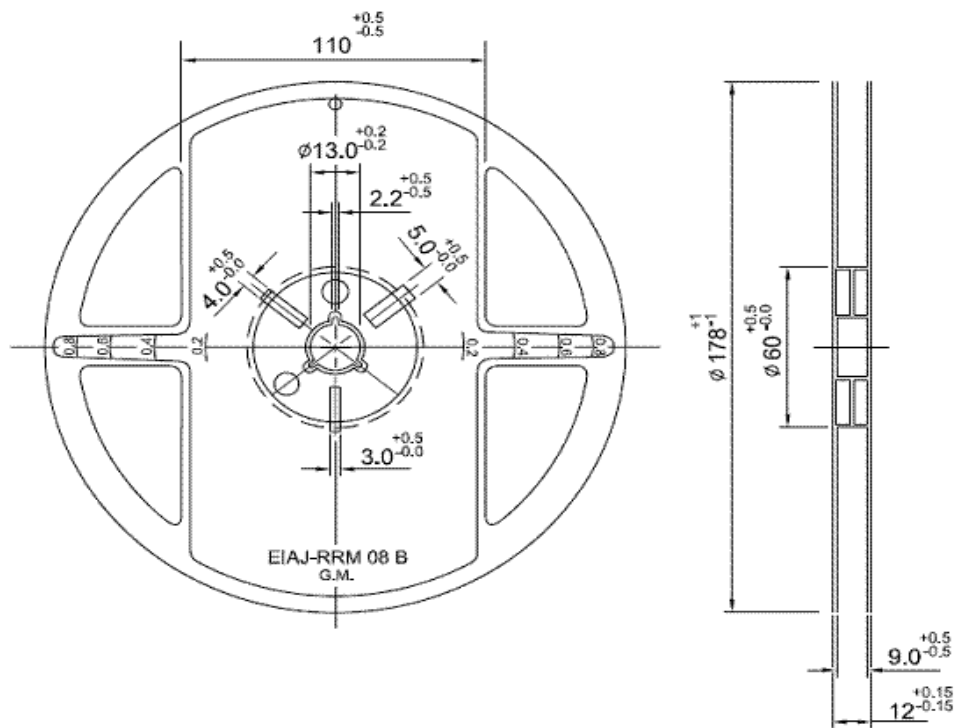


Symbol	size	symbol	size
C	8.00±0.10	H	4.00±0.10
D	3.50±0.05	J	1.55±0.05
E	1.75±0.05	T	2.00±0.05
F	4.00±0.10	A	1.55±0.05
G	2.00±0.05	B	0.60±0.03

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REEL DIMENSIONS



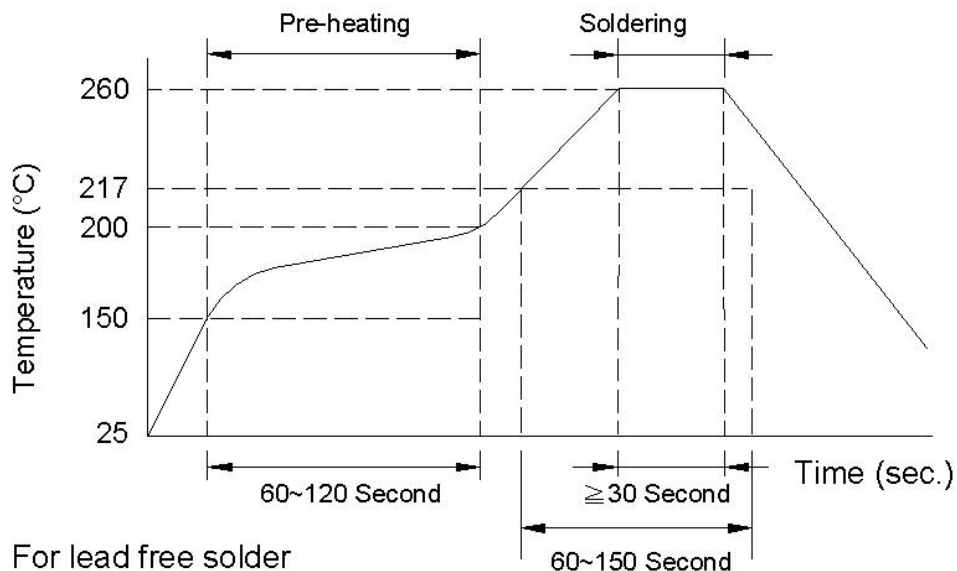
STANDARD QUANTITY FOR PACKAGING

Packaging style : Taping
Reel packaging quantity : 4000 pcs/reel
Inner box : 5 reel/inner box

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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

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 ± 20 % of the initial value
Operational Life	A. Temperature : 85°C ± 5°C 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

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Test item	Test condition	Criteria
Biased Humidity	A. Temperature : $40 \pm 2^{\circ}\text{C}$ 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 $\pm 20\%$ 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
ESD test (contact discharge)	A. Voltage : 8kV(level 4) B. Polarity : +, - C. ESD gun : IEC61000-4-2 standard Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Leakage current : within $10\mu\text{A}$
ESD test (air discharge)	A. Voltage : 15kV(level 4) B. Polarity : +, - C. ESD gun : IEC61000-4-2 standard Measurement : at ambient temperature 24 hrs after test completion	A. No mechanical damage B. Leakage current : within $10\mu\text{A}$

12.NOTE

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