# Data Sheet

- ITEM : COMMON MODE ESD FILTER
- PART NO : ICMEF112P900MFR

## 1. Generals

- This specification covers the engineering requirements for the ICMEF112P900M (Common Mode ESD Filter)

## 2. Features

- Effective for suppressing common mode noise and almost no effect for high speed differential data line
- One common mode filters and two ESD suppression devices integrated
- Ultra low profile (1.27 x 1.00 x 0.60mm)
- Ceramic multilayer type SMD component
- Non-polarized product
- It is a product conforming to RoHS directive.

## 3. Applications

- LVDS lines in notebook computers
- USB2.0, IEEE1394, DVI, HDMI lines in PDP, LCD TV, DVD Player, PC, Audio player, DSC
- MDDI, MIPI in mobile phone

## 4. Product specifications

### 4. 1 PART NUMBER CODE

| ICMEF | 11 | 2P | 900 | M | F | R |
|---|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ |

① Series name of ICT's Common Mode ESD Filter
② Dimensions, 1.2mm (L) x 1.0mm (W)
③ Number of lines, 2P= 2 lines
④ Common Mode Impedance (at 100MHz), 900= 90Ω
⑤ Tolerance of common mode impedance, M= ±25%
⑥ Type of electrode plating: F= Lead Free
⑦ Packing Type, R= Reel

### 4. 2 Specification of electrical characteristics

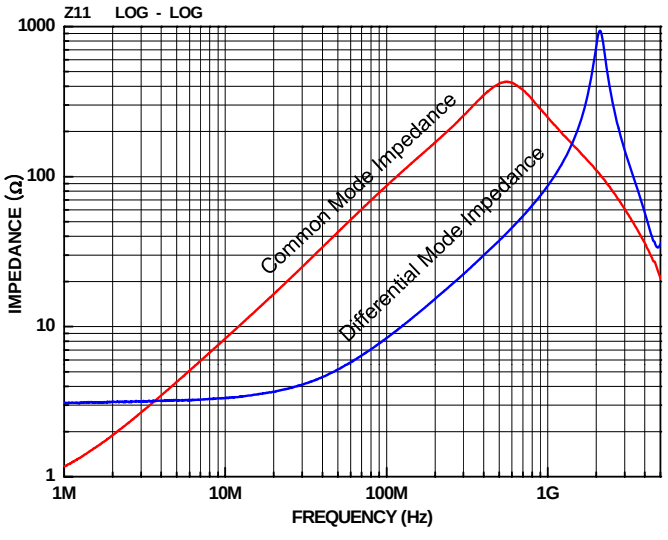
| Characteristics | Common Mode Impedance | Resistance | Leakage Current | Capacitance | Insulation Resistance (Max) | Rated Voltage | Rated Current |
|---|---|---|---|---|---|---|---|
| symbol | $Z_{CM}$ | $R_{DC}$ | $I_L$ | C | $IR_{CR}$ | $V_R$ | $I_R$ |
| Units | Ω | Ω | ㎂ | pF | MΩ | Volt | mA |
| Test Condition | @100MHz | 25℃±2℃ | 5V | 0.5Vrms @1MHz | 10V | 25℃±2℃ | 25℃±2℃ |
| Value | 90(±25%) | Max 4.0 | Max 1.0 | Max 1.7 | Min 10 | 5 | Max100 |

## TERMINOLOGY

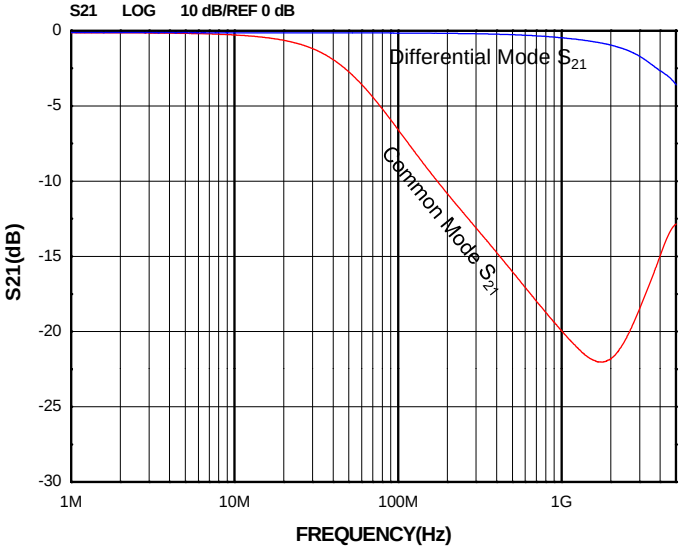
· **$V_t$**: Per IEC 61000-4-2, 30A@8kV, level 4, trigger voltage measured initiation of pulse, all test in contact discharge mode.

· **$V_c$** : Per IEC 61000-4-2, 30A@8kV, level 4, clamp measurement made 30ns after initiation of pulse, all test in contact discharge mode.

**- Impedance Curves**



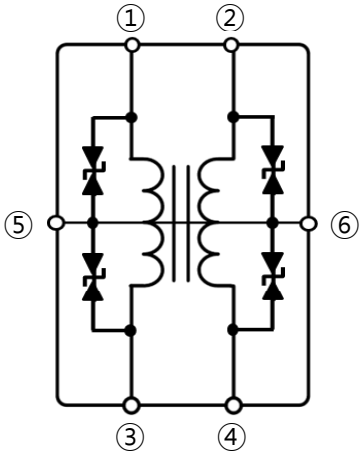

**-Transmission characteristics (S-parameter)**



### 4. 3 Operating Temperature

| DESCRIPTION | REQUIREMENTS |
|---|---|
| Operating Temperature | -40℃ ~ + 85℃ |

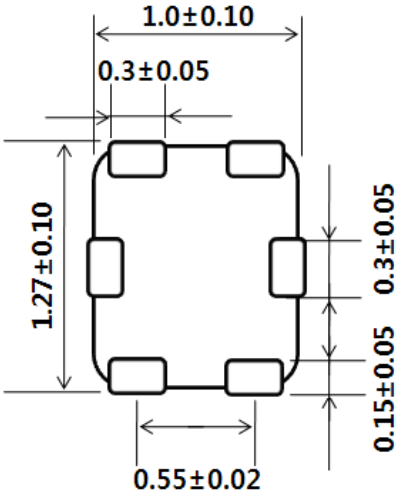
## 5. Equivalent Circuit



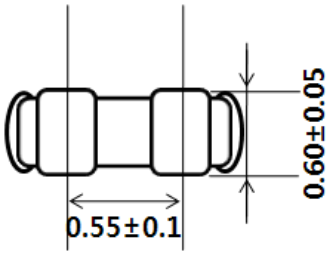

| PIN NUMBER | DESCRIPTION |
|---|---|
| ①~④ | DATA LINE |
| ⑤, ⑥ | GROUND |

## 6. Mechanical Property

### 6. 1 Appearance and Dimension




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Unit : mm