MetalLions

SMD Common Mode Filters **ACM1211F Series**

## FEATURES


- Winding type realizes small size and low profile
- Prevention of common mode noise at high frequency
- Excellent solderability
- Operating temperature -40~+125℃ (Including self - temperature rise)
- RoHS Compliant

## FEATURES

- Power line noise countermeasure for electronic equipment (Notebook, server applications, Battery , etc.)
- Best for high current circuit such as car
- Wireless charging and power device design

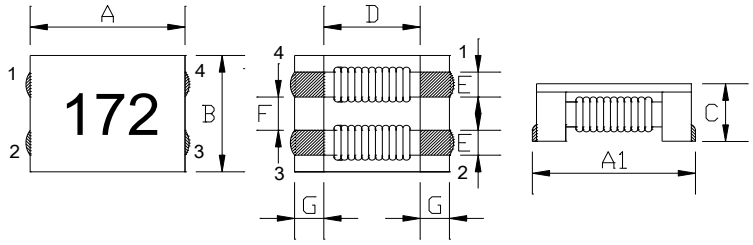
## Explanation of Part Number

**ACM 1211 F- 701 T 80**

**1 2 3 4 5 6**

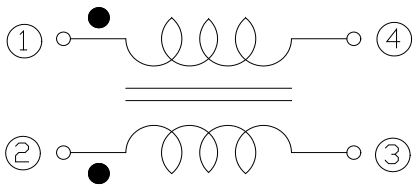
- 1:Product Series:Wire Wound Chip Common Mode Filters
- 2:Dimensions:
- 3: Material Code:Ferrite
- 4:Common Mode Impedance(Ω)
- 5:Packing(Tape & Reel)
- 6:Rated Current: 80=8000mA

## Shapes and Dimensions [Dimensions in mm]

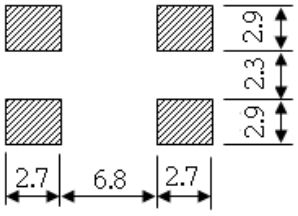



| | | |
|---|---|---|
| **A:** | **12.0±0.5** | **mm** |
| **A1:** | **12.5±0.5** | **mm** |
| **B:** | **10.8±0.5** | **mm** |
| **C:** | **8.5 Max.** | **mm** |
| **D:** | **7.0 Typ.** | **mm** |
| **E:** | **2.7±0.2** | **mm** |
| **F:** | **2.5±0.2** | **mm** |
| **G:** | **2.5±0.2** | **mm** |

## Equivalent circuit




## Land Pattern: [mm]



## Electrical Characterisitics:

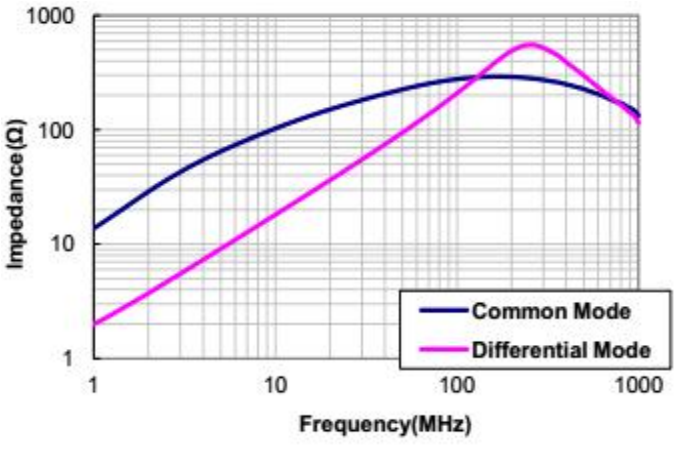
| Part Number | Impedance（Ω）@100MHz | | DC Resistance (mΩ) Max | Rated Current (A) Max | Rated Voltage (V) Max | Insulation Resistance (MΩ) Min | Marking |
|---|---|---|---|---|---|---|---|
| | MIN | TYP | | | | | |
| ACM1211F-800T100 | 80 | 230 | 2.0 | 10.0 | 125 | 10 | 800 |
| ACM1211F-301T90 | 200 | 300 | 4.0 | 9.0 | 125 | 10 | 301 |
| ACM1211F-501T80 | 300 | 500 | 5.5 | 8.0 | 125 | 10 | 501 |
| ACM1211F-701T80 | 500 | 700 | 6.0 | 8.0 | 125 | 10 | 701 |
| ACM1211F-801T80 | 600 | 800 | 8.0 | 8.0 | 125 | 10 | 801 |
| ACM1211F-102T60 | 750 | 1000 | 14 | 6.0 | 125 | 10 | 102 |
| ACM1211F-222T18 | 2200 | 2500 | 35 | 1.8 | 125 | 10 | 222 |
| ACM1211F-272T15 | 2300 | 2700 | 50 | 1.5 | 125 | 10 | 272 |

**Rated Current ： Based on temperature rise （△T： 40℃ TYP.)**

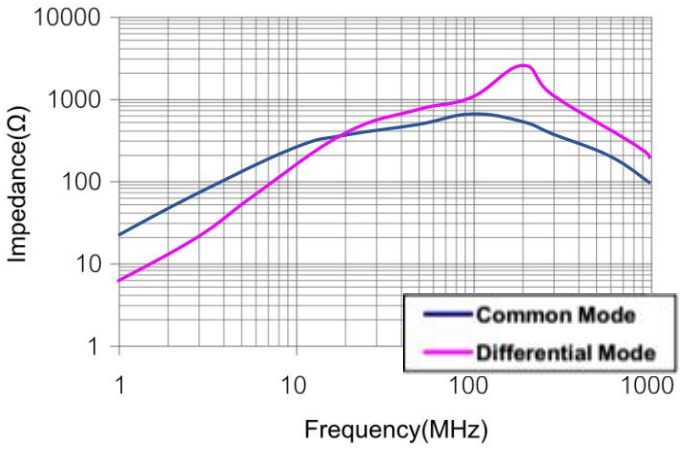
## TYPICAL ELECTRICAL CHARACTERISTICS

### Impedance VS. Frequency

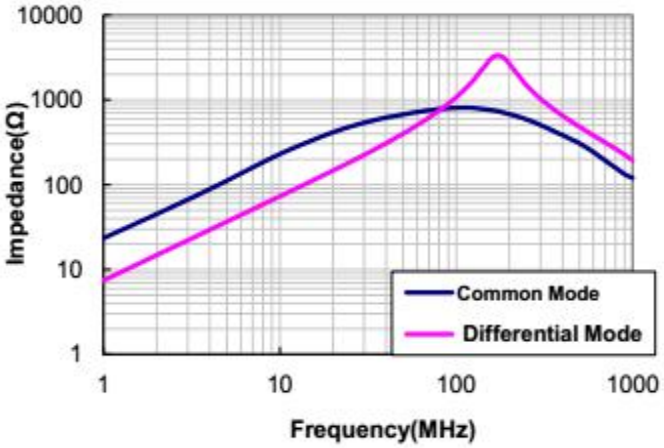
ACM1211F-800T100



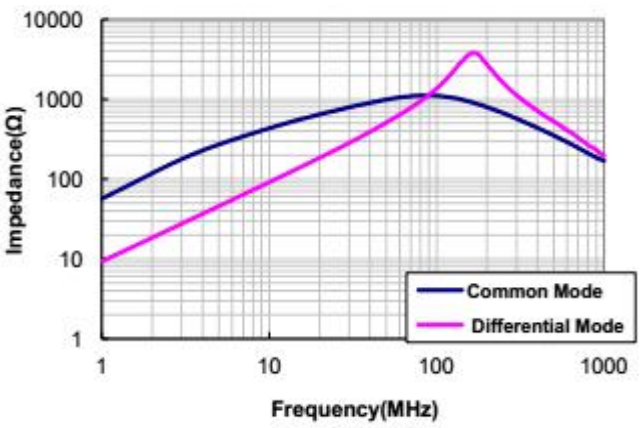

ACM1211F-301T90



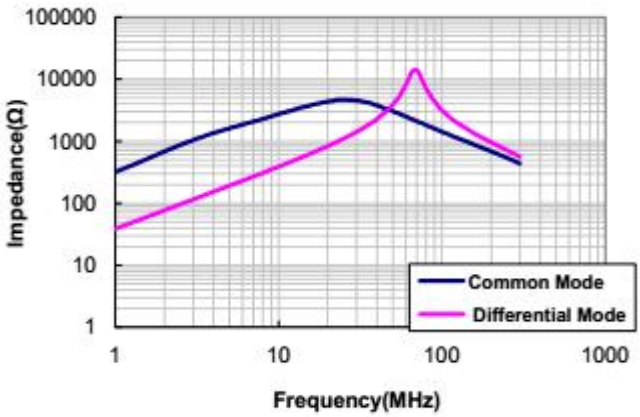
ACM1211F-701T80
ACM1211F-801T80



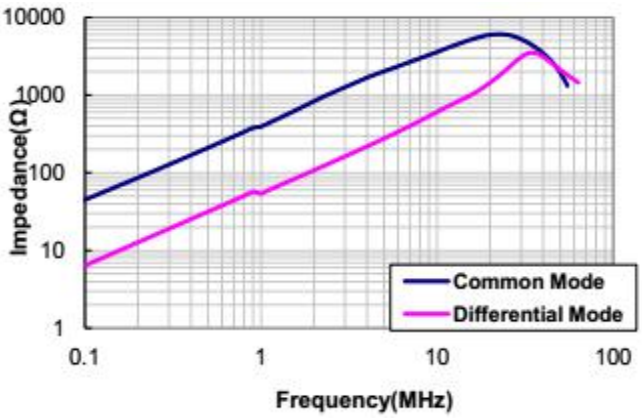

ACM1211F-102T60




ACM1211F-222T18



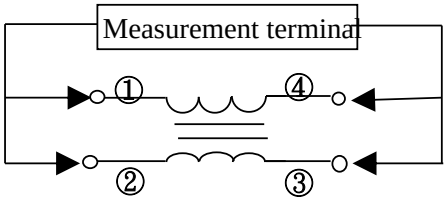

ACM1211F-272T15



# TEST EQUIPMENT

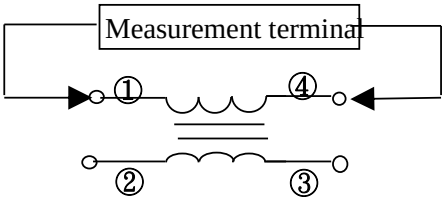
**Impedance**

**Measured by using HP4291B RF Impedance Analyzer.**




**DC Resistance**

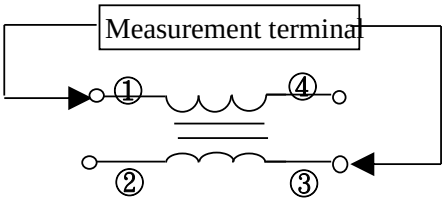
**Measured by using Chroma 16502 milliohm meter.**




**Insulation Resistance**

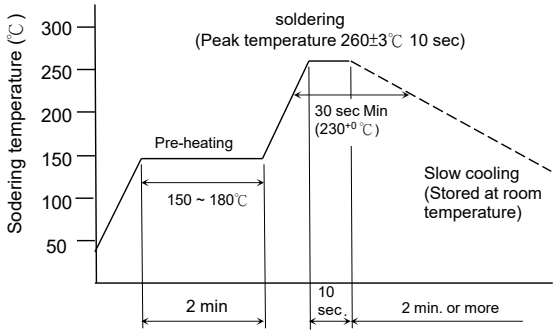
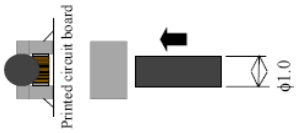
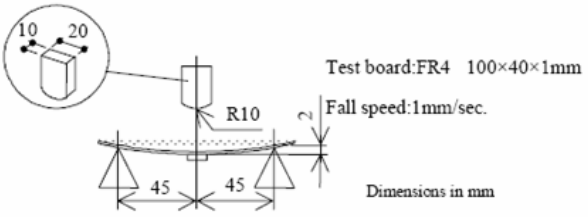
**Measured by using Chroma 19073**

**Measurement voltage : 50v ,Measurement time : 60 sec.**

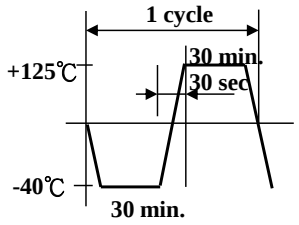


# Reliability Test

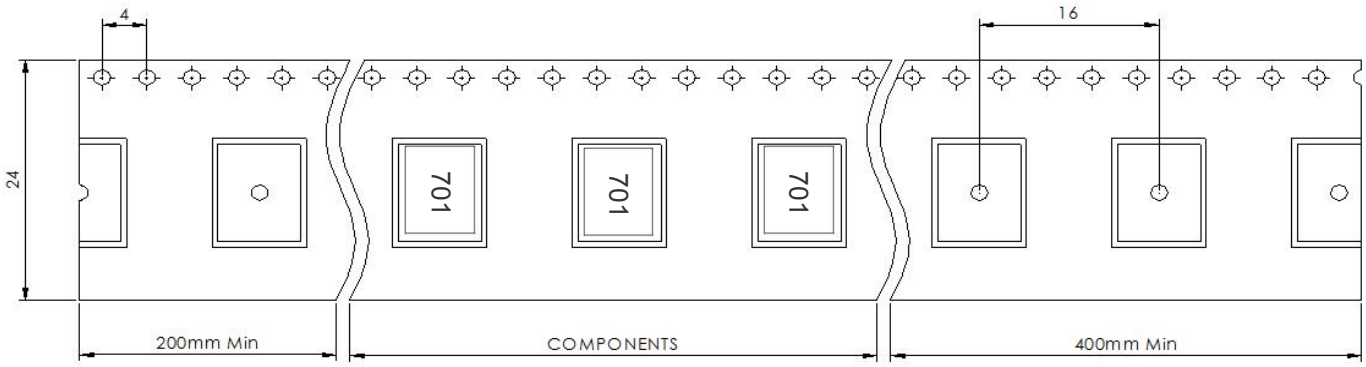
## MECHANICAL

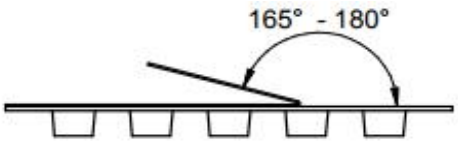
| TEST ITEM | SPECIFICATION | TEST DETAILS |
|---|---|---|
| Solder ability | The product shall be connected to the test circuit board by the fillet (the height is 0.2mm). | Apply cream solder to the printed circuit board .<br>Refer to clause 8 for Reflow profile. |
| Resistance to Soldering heat (reflow soldering) | There shall be no damage or problems. | Temperature profile of reflow soldering<br>  <br>The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric eric conditions for 1 hour, after which the measurement shall be made. |
| Terminal strength | The terminal electrode and the ferrite must not damaged. | Solder a chip to test substrate , and then laterally apply a load 9.8N in the arrow direction.<br>  |
| Strength on PC board bending | The terminal electrode and the ferrite must not damaged. | Solder a chip to test substrate and then apply a load.<br>  |
| High temperature resistance | Impedance:Within±20% of the initial value.<br>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.<br>The terminal electrode and the ferrite must not damaged. | After the samples shall be soldered onto the test circuit board,the test shall be done.<br>Measurement : After placing for 24 hours min.<br>Temperature : +125±2℃<br>Applied voltage : Rated voltage<br>Applied current : Rated current<br>Testing time : 500±12 hours |

## MECHANICAL

| TEST ITEM | SPECIFICATION | TEST DETAILS |
|---|---|---|
| Humidity resistance | Impedance:Within±20% of the initial value.<br>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.<br>The terminal electrode and the ferrite must not damaged. | After the samples shall be soldered onto the test circuit board,the test shall be done.<br>Measurement : After placing for 24 hours min.<br>Temperature : +60±2℃ , Humidity : 90 to 95 %RH<br>Applied voltage : Rated voltage<br>Applied current : Rated current<br>Testing time : 500±12 hours |
| Thermal shock | Impedance:Within±20% of the initial value.<br>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.<br>The terminal electrode and the ferrite must not damaged. |  |
| Low temperature storage | Impedance:Within±20% of the initial value.<br>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.<br>The terminal electrode and the ferrite must not damaged. | After the samples shall be soldered onto the test circuit board,the test shall be done.<br>Measurement : After placing for 24 hours min.<br>Temperature : -40±2℃<br>Testing time : 500±12 hours |
| Vibration | Impedance:Within±20% of the initial value.<br>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.<br>The terminal electrode and the ferrite must not damaged. | After the samples shall be soldered onto the test circuit board,the test shall be done.<br>Frequency : 10 to 55 Hz<br>Amplitude : 1.52 mm<br>Dimension and times : X ,Y and Z directions for 2 hours each. |
| Solderability | New solder More than 75% | Flux (rosin, isopropyl alcohol{JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130～150℃ and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±2℃. More than 75% of the electrode sections shall be couered with new solder smoothly when the sample is taken out of the solder bath. |

# Packaging




| Tape width | Distance | Pull-of force |
|---|---|---|
| 24 mm | 16 mm | 10~120g |

## Packing Quantity

500 pcs./reel