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°C (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

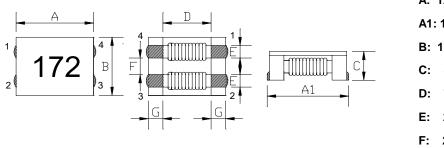
### **Explanation of Part Number**

#### ACM 1211 F- 701 T 80

1 2 3 4 5 6

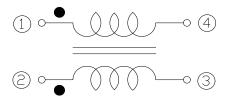
- 1:Product Series:Wire Wound Chip Common Mode Filters
- 2:Dimensions:
- 3: Material Code:Ferrite
- 4:Common Mode Impedance(Ω)
- 5:Packing(Tape & Reel)
- ♦ 6:Rated Current: 80=8000mA

## Shapes and Dimensions [Dimensions in mm]

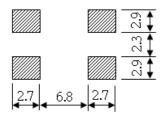


A:	12.0±0.5	mm
A1:	12.5±0.5	mm
B:	10.8±0.5	mm
C:	8.5 Max.	mm
D:	7.0 Тур.	mm
E:	2.7±0.2	mm
F:	2.5±0.2	mm
G:	2.5±0.2	mm

## Equivalent circuit



## Land Pattern: [mm]





## **ACM1211F Series**

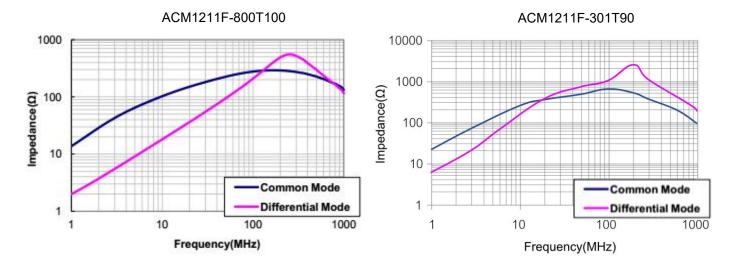
## Electrical Characterisitics:

Part Number	Imped (Ω)@1		DC Resistance	Rated Current	Rated Voltage	Insulation Resistance	Marking
	MIN	TYP	(mΩ) Max	(A) Max	(V) Max	$(M\Omega)$ Min	, C
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

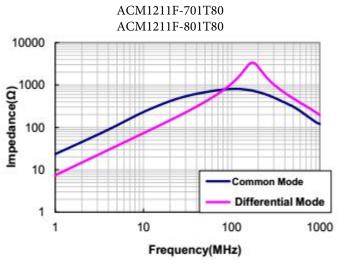
Rated Current : Based on temperature rise ( $\triangle T$ : 40°C TYP.)

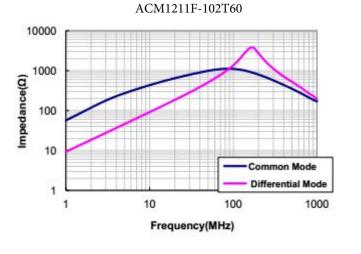
## **TYPICAL ELECTRICAL CHARACTERISTICS**

### Impedance VS. Frequency

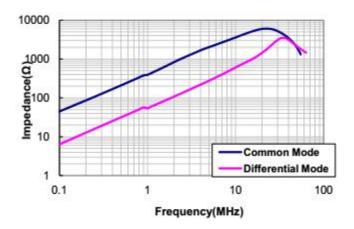








ACM1211F-272T15



ACM1211F-222T18

Frequency(MHz)

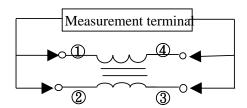
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## **TEST EQUIPMENT**

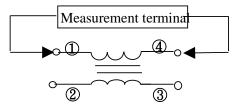
#### Impedance

Measured by using HP4291B RF Impedance Analyzer.



#### **DC Resistance**

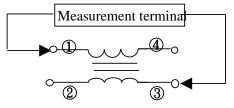
Measured by using Chroma 16502 milliohm meter.



#### **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	Apply cream solder to the printed circuit board .	
	circuit board by the fillet (the height is 0.2mm).	Refer to clause 8 for Reflow profile.	
Resistance to	There shall be no damage or problems.	Temperature profile of reflow soldering	
Soldering heat		$\odot$ 300 - soldering (Peak temperature 260±3°C 10 sec)	
(reflow soldering)		Soldering 300 − soldering (Peak temperature 260±3°C 10 sec) 250 − 250 − 200 − 250 − 200 − 250 − 200 − 2	
		200 - 30 sec Min (230*0°C)	
		Pre-heating	
		B 100 − / 150 ~ 180°C (Stored at room temperature)	
		2 min k 2 min. or more	
		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	Solder a chip to test substrate , and then laterally apply	
	not damaged.	a load 9.8N in the arrow direction.	
		Printed circuit board	
Strength on PC board	The terminal electrode and the ferrite must	Solder a chip to test substrate and then apply a load.	
bending	not damaged.	Test board:FR4 $100 \times 40 \times 1$ mm R10 $\sim$ Fall speed:1mm/sec.	
		45 45 Dimensions in mm	
High	Impedance:Within±20% of the initial value.	After the samples shall be soldered onto the test circuit	
temperature	Insulation resistance and DC resistance on the	board,the test shall be done.	
resistance	specification(refer to clause 2-1) shall be met.	Measurement : After placing for 24 hours min.	
	The terminal electrode and the ferrite must not	t Temperature : +125±2℃	
	damaged.	Applied voltage : Rated voltage	
		Applied current : Rated current	
		Testing time : 500±12 hours	

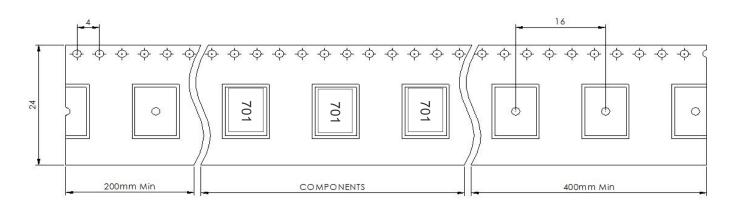


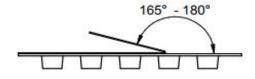
#### MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS	
Humidity	Impedance:Within±20% of the initial value.	After the samples shall be soldered onto the test circuit	
resistance	Insulation resistance and DC resistance on the	board,the test shall be done.	
	specification(refer to clause 2-1) shall be met.	Measurement : After placing for 24 hours min.	
	The terminal electrode and the ferrite must not	Temperature : +60 $\pm2^\circ\!\!\!{\rm C}$ , Humidity : 90 to 95 %RH	
	damaged.	Applied voltage : Rated voltage	
		Applied current : Rated current	
		Testing time : 500±12 hours	
Thermal shock	Impedance:Within±20% of the initial value. Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met. The terminal electrode and the ferrite must not damaged.	+125°C -40°C -30 min. 1  cycle 30  min.	
Low	Impedance:Within±20% of the initial value.	After the samples shall be soldered onto the test	
temperature	Insulation resistance and DC resistance on the	circuit board,the test shall be done.	
storage	specification(refer to clause 2-1) shall be met.	Measurement : After placing for 24 hours min.	
	The terminal electrode and the ferrite must	Temperature : -40±2℃	
	not damaged.	Testing time : 500±12 hours	
Vibration	Impedance:Within±20% of the initial value.	After the samples shall be soldered onto the test circuit	
	Insulation resistance and DC resistance on	board,the test shall be done.	
	the specification(refer to clause 2-1)	Frequency : 10 to 55 Hz	
	shall be met.	Amplitude : 1.52 mm	
	The terminal electrode and the ferrite must	Dimension and times : X ,Y and Z directions	
	not damaged.	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 $\sim$ 150 $^\circ\!$	
		0.5mm below for 3±0.2 seconds fully in molten solder	
		M705 with a temperature of 245±2°C. 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

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