

FEATURES

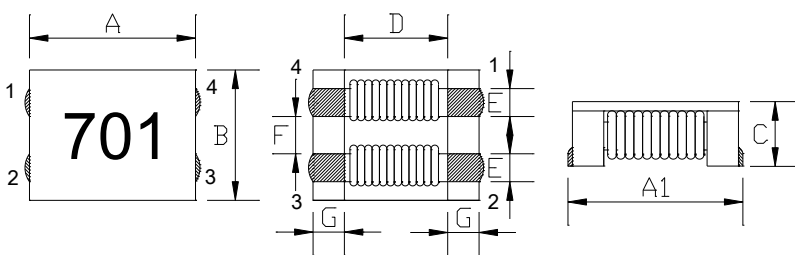
- Winding type realizes small size and low profile
- Prevention of common mode noise at high frequency
- Excellent solderability
- Operating temperature $-40\sim+125^{\circ}\text{C}$ (Including self - temperature rise)
- RoHS Compliant


FEATURES

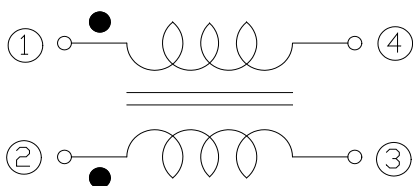
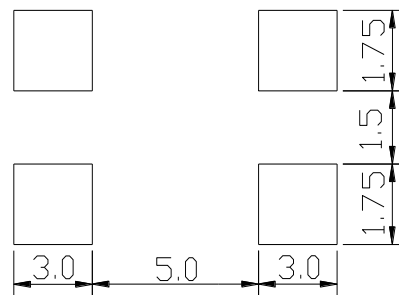
- Power line noise countermeasure for electronic equipment (Notebook, server applications, Battery , etc.)
- Best for high current circuit such as car
- Wireless charging and power device design

Explanation of Part Number
ACM 9070 F- 301 T 60
1 2 3 4 5 6

- ◆ 1:Product Series:Wire Wound Common Mode Filters
- ◆ 2:Dimensions:
- ◆ 3: Material Code:Ferrite
- ◆ 4:Common Mode Impedance(Ω)
- ◆ 5:Packing(Tape & Reel)
- ◆ 5:Rated Current: 60=6000mA

Shapes and Dimensions [Dimensions in mm]


A:	9.0±0.5	mm
A1:	9.5±0.5	mm
B:	7.0±0.5	mm
C:	4.8Max.	mm
D:	5.6Typ.	mm
E:	1.5±0.2	mm
F:	2.0±0.2	mm
G:	1.7±0.2	mm

Equivalent circuit

Land Pattern: [mm]


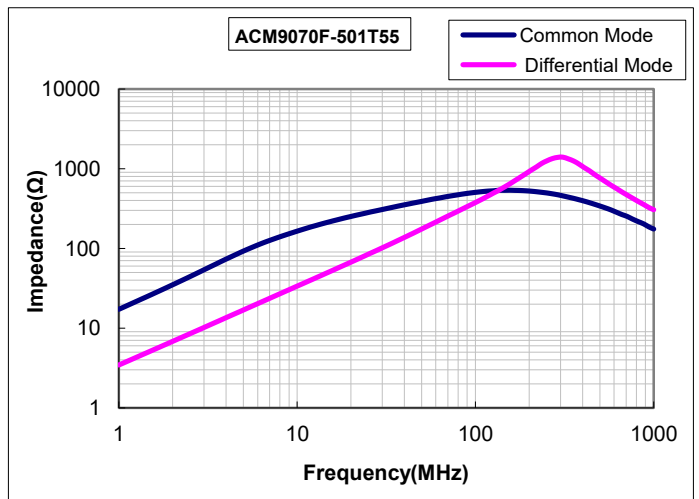
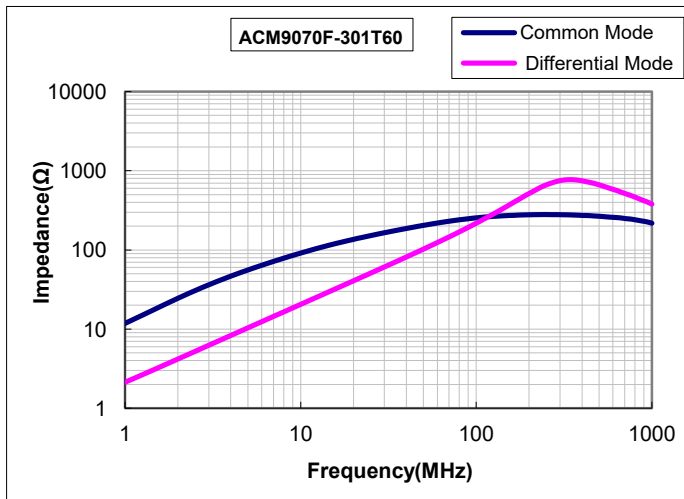
Electrical Characteristics:

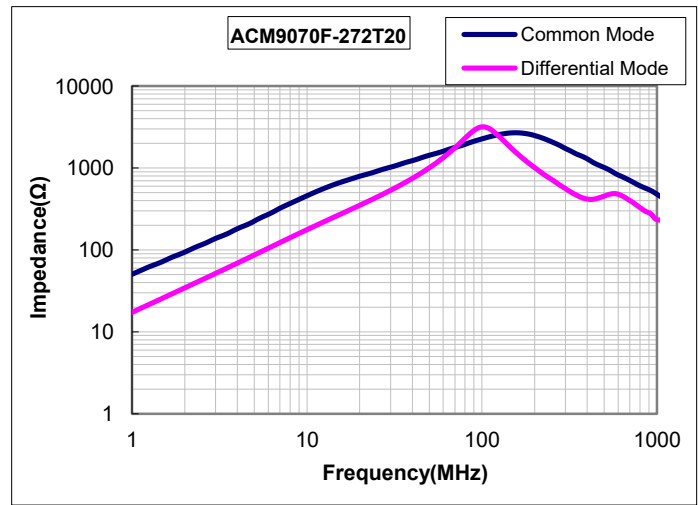
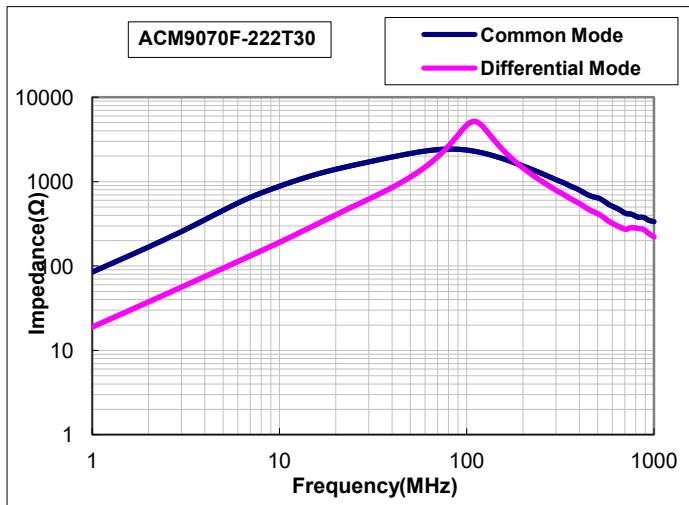
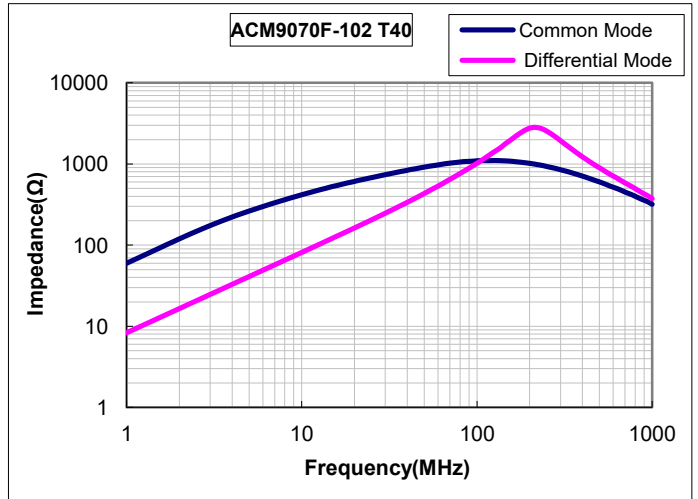
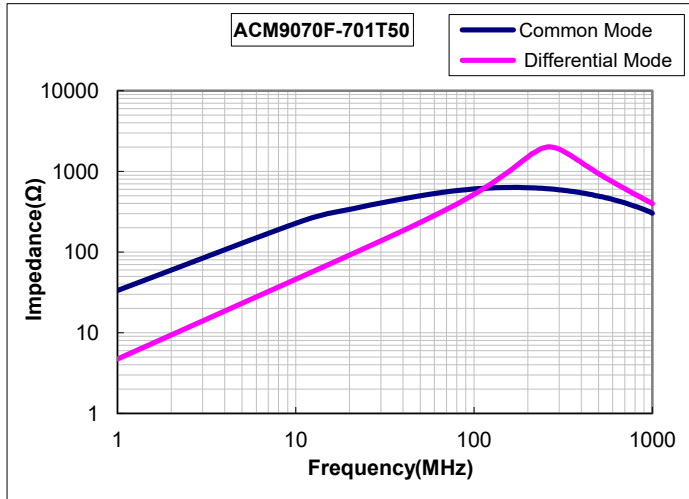
PT/NO.	Impedance(Ω) at 100MHz		Resistance RDC(Ω) Max. (1 line)	Rated Current (A) Max.	Insulation Resistance (M Ω) Min.	Rated Voltage (V)Max.
	Min.	Typ.				
ACM9070F-301T60	225	300	6m	6.0	10	80
ACM9070F-501T55	450	600	8m	5.5	10	80
ACM9070F-701T50	500	700	10m	5.0	10	80
ACM9070F-102T40	750	1000	13m	4.0	10	80
ACM9070F-222T30	1700	2200	50m	3.0	10	80
ACM9070F-272T20	2000	2700	80m	2.0	10	80
ACM9070F-302T20	2500	3000	80m	2.0	10	80

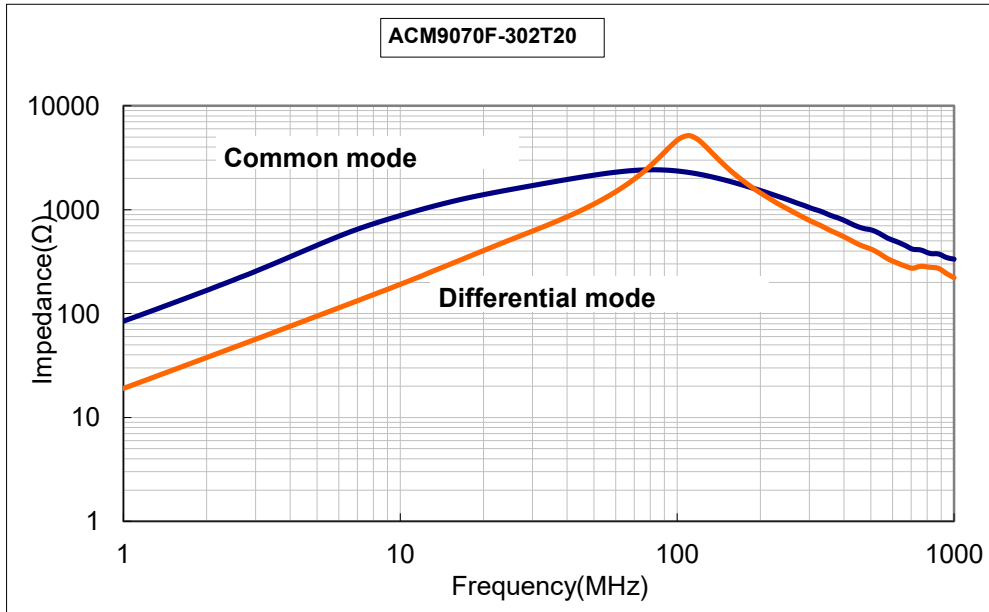
Rated Current : Based on temperature rise (ΔT : 40°C TYP.)

TYPICAL ELECTRICAL CHARACTERISTICS

Impedance VS. Frequency



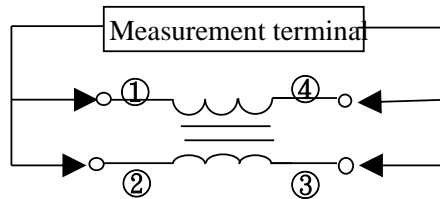




TEST EQUIPMENT

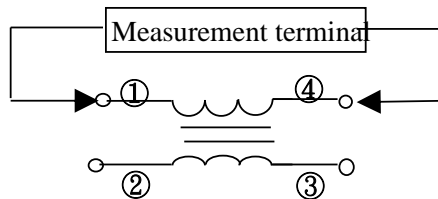
Impedance

Measured by using HP4291B RF Impedance Analyzer.



DC Resistance

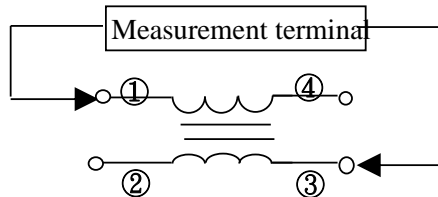
Measured by using Chroma 16502 milliohm meter.



Insulation Resistance

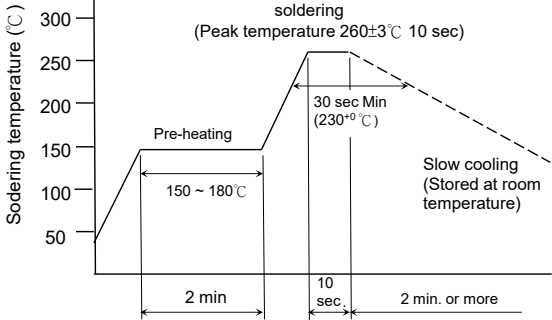
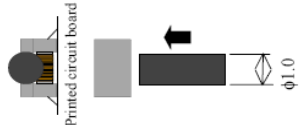
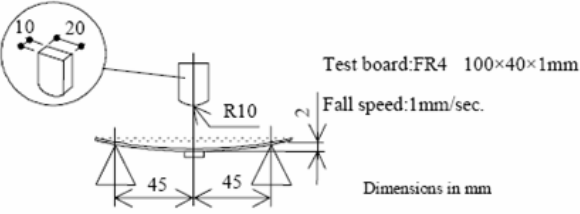
Measured by using Chroma 19073

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

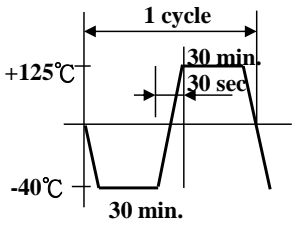


Reliability Test

MECHANICAL

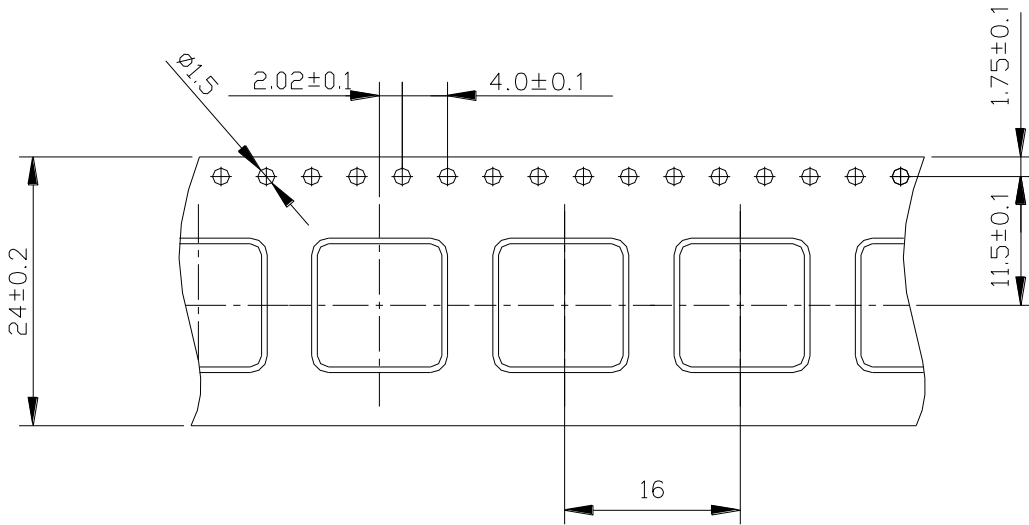
TEST ITEM	SPECIFICATION	TEST DETAILS
Solder ability	The product shall be connected to the test circuit board by the fillet (the height is 0.2mm).	Apply cream solder to the printed circuit board . Refer to clause 8 for Reflow profile.
Resistance to Soldering heat (reflow soldering)	There shall be no damage or problems.	<p>Temperature profile of reflow soldering</p>  <p>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.</p>
Terminal strength	The terminal electrode and the ferrite must not be damaged.	<p>Solder a chip to test substrate , and then laterally apply a load 9.8N in the arrow direction.</p> 
Strength on PC board bending	The terminal electrode and the ferrite must not be damaged.	<p>Solder a chip to test substrate and then apply a load.</p>  <p>Test board:FR4 100×40×1mm Fall speed:1mm/sec. Dimensions in mm</p>
High temperature resistance	<p>Impedance:Within±20% of the initial value.</p> <p>Insulation resistance and DC resistance on the specification(refer to clause 2-1) shall be met.</p> <p>The terminal electrode and the ferrite must not be damaged.</p>	<p>After the samples shall be soldered onto the test circuit board,the test shall be done.</p> <p>Measurement : After placing for 24 hours min.</p> <p>Temperature : +125±2°C</p> <p>Applied voltage : Rated voltage</p> <p>Applied current : Rated current</p> <p>Testing time : 500±12 hours</p>

MECHANICAL

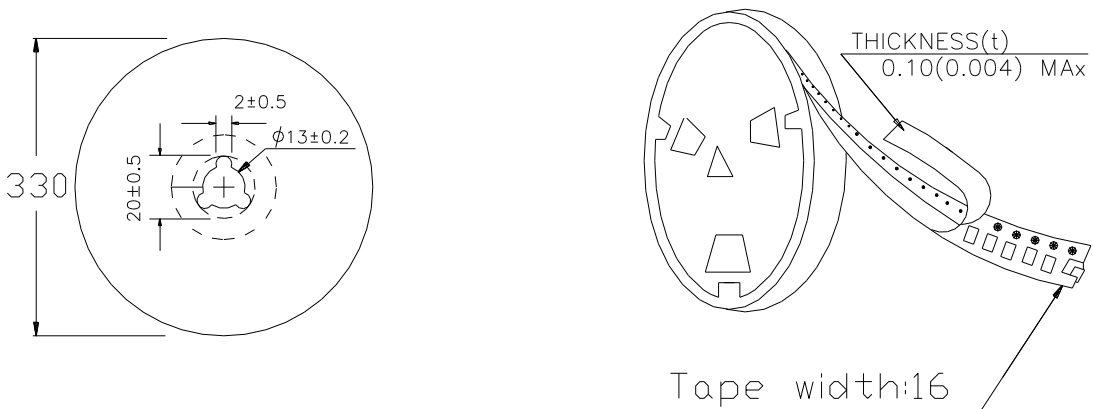
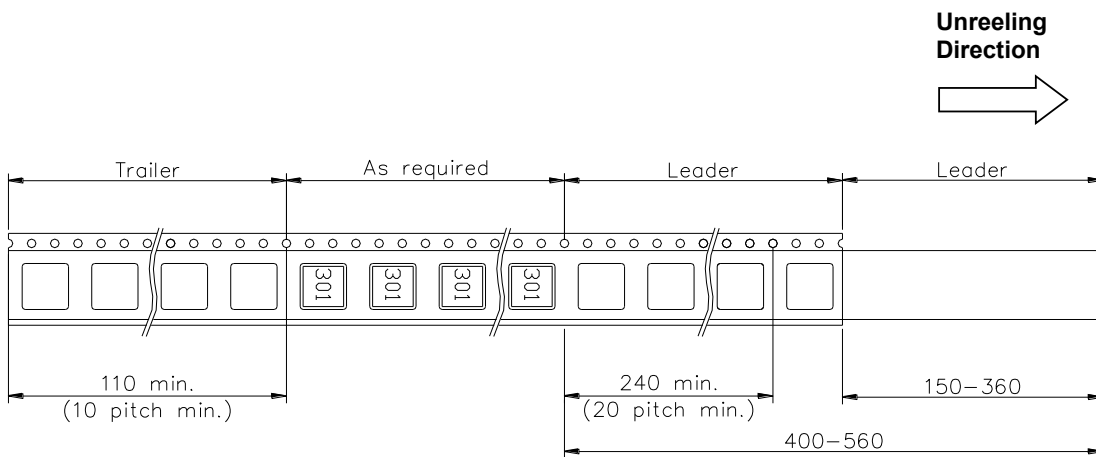
TEST ITEM	SPECIFICATION	TEST DETAILS
Humidity resistance	<p>Impedance: Within $\pm 20\%$ of the initial value.</p> <p>Insulation resistance and DC resistance on the specification (refer to clause 2-1) shall be met.</p> <p>The terminal electrode and the ferrite must not be damaged.</p>	<p>After the samples shall be soldered onto the test circuit board, the test shall be done.</p> <p>Measurement : After placing for 24 hours min.</p> <p>Temperature : $+60 \pm 2^\circ\text{C}$, Humidity : 90 to 95 %RH</p> <p>Applied voltage : Rated voltage</p> <p>Applied current : Rated current</p> <p>Testing time : 500 ± 12 hours</p>
Thermal shock	<p>Impedance: Within $\pm 20\%$ of the initial value.</p> <p>Insulation resistance and DC resistance on the specification (refer to clause 2-1) shall be met.</p> <p>The terminal electrode and the ferrite must not be damaged.</p>	 <p>The diagram illustrates a thermal shock cycle. It starts at $+125^\circ\text{C}$, drops to -40°C, stays there for 30 min, then rises back to $+125^\circ\text{C}$ for 30 min. The transition time between $+125^\circ\text{C}$ and -40°C is 30 sec. The entire sequence is labeled as '1 cycle'.</p>
Low temperature storage	<p>Impedance: Within $\pm 20\%$ of the initial value.</p> <p>Insulation resistance and DC resistance on the specification (refer to clause 2-1) shall be met.</p> <p>The terminal electrode and the ferrite must not be damaged.</p>	<p>After the samples shall be soldered onto the test circuit board, the test shall be done.</p> <p>Measurement : After placing for 24 hours min.</p> <p>Temperature : $-40 \pm 2^\circ\text{C}$</p> <p>Testing time : 500 ± 12 hours</p>
Vibration	<p>Impedance: Within $\pm 20\%$ of the initial value.</p> <p>Insulation resistance and DC resistance on the specification (refer to clause 2-1) shall be met.</p> <p>The terminal electrode and the ferrite must not be damaged.</p>	<p>After the samples shall be soldered onto the test circuit board, the test shall be done.</p> <p>Frequency : 10 to 55 Hz</p> <p>Amplitude : 1.52 mm</p> <p>Dimension and times : X ,Y and Z directions for 2 hours each.</p>
Solderability	<p>New solder More than 75%</p>	<p>Flux (rosin, isopropyl alcohol {JIS-K-1522}) shall be coated over the whole of the sample before hand, the sample shall then be preheated for about 2 minutes in a temperature of $130 \sim 150^\circ\text{C}$ 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 $245 \pm 2^\circ\text{C}$. More than 75% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath.</p>

Packaging

CARRIER TAPE DIMENSIONS (mm)



TAPING DIMENSIONS (mm)



Packing Quantity

700 pcs./reel

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