ACM Series

Features

- High common mode impedance at high frequency effects excellent noise suppression performance.
- ACM series realizes small size and low profile.
- The products contain no lead and also support lead- free soldering.

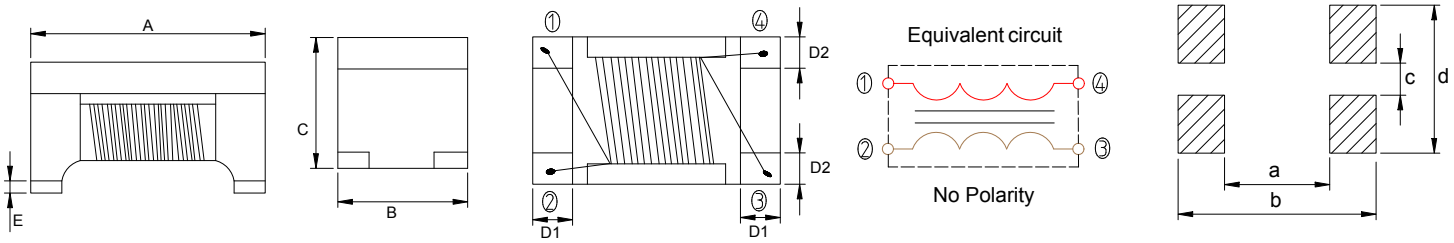
Applications

- The ACM Series is effective in high frequency noise suppression and suitable for suppression of radiation noise in signal cables.
- The common mode choke coil structure enables noise suppression without degrading the signal.
- ACM series can be used as a common mode filter for LVDS, USB2.0 and IEEE1394.

Test Conditions

- All test data is referenced to 25℃ ambient.
- Operating temperature range -40℃ to +125℃.
- The part temperature(ambient + temp rise)should not exceed 125℃ under worst case operating conditions. Circuit design,component placement, PCB trace size and thickness,airflow and other cooling provisions all affect the part temperature,part temperature should be verified in the end application.

External dimensions (Unit:mm)



Type	A	B	C	D1 Typ.	D2 Typ.	E Typ.	a	b	c	d	Q'Ty/Reel
ACM121009	1.2±0.2	1.0±0.2	0.9±0.2	0.35	0.35	0.03	0.65	1.55	0.3	1.1	3000
ACM201212	2.0±0.2	1.2±0.2	1.2±0.2	0.5	0.51	0.15	1.25	2.6	0.45	1.4	2000
ACM321619	3.2±0.2	1.6±0.2	2.0±0.2	0.5	0.5	0.15	1.9	3.7	0.4	1.6	2000
ACM322522	3.2±0.2	2.5±0.2	2.2±0.2	0.8	0.9	0.15	1.6	4.4	0.6	3.5	2000
ACM453228	4.5±0.2	3.2±0.2	2.8±0.2	1.0	1.2	0.15	2.5	4.8	0.7	3.8	500

Part Number Code

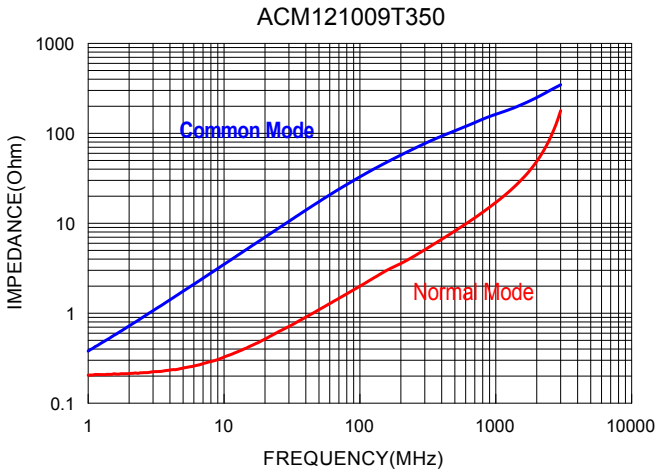
ACM	121009	T	350
1	2	3	4

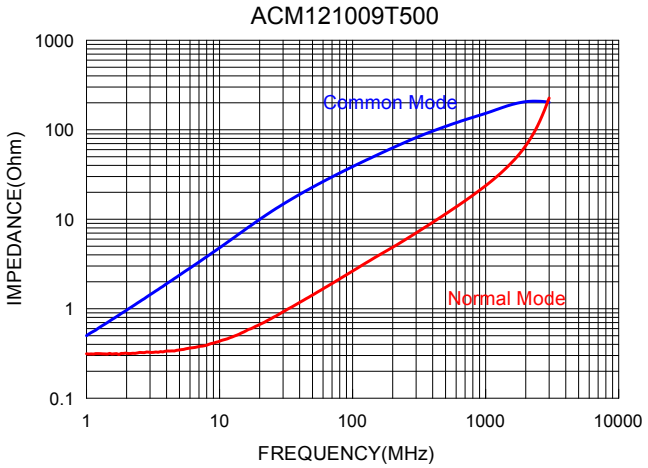
1） Series Name — Common Mode Chokes
2） Dimensions(mm) — 121009: 1.2x1.0x0.9
3） Tolerance — T: ±25%
4） Impedance — 350: 35Ω

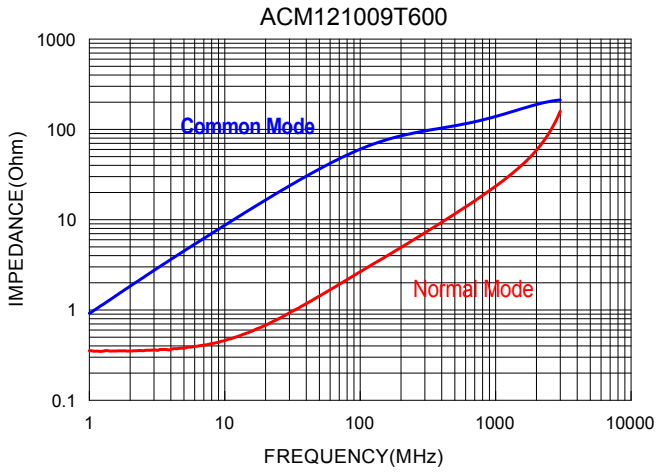
Electrical Characteristics

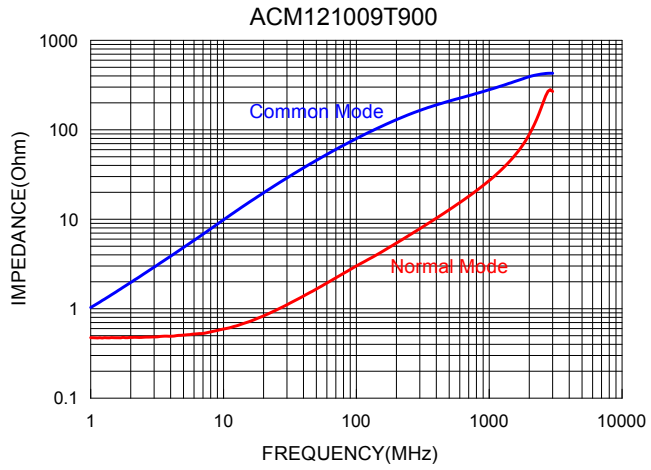
Part Number	Common Mode Impedance Z(Ω) @100MHz	DC Resistance (Ω) Max.	Rated Current IDC(mA) Max.	Rated Voltage Vdc(V)	Withstanding Voltage Vode(V)	Insulation Resistance (Ω)Min.
ACM121009T350	35.0	0.3	200.0	50.0	125.0	10M
ACM121009T500	50.0	0.3	250.0	50.0	125.0	10M
ACM121009T600	60.0	0.3	250.0	50.0	125.0	10M
ACM121009T900	90.0	0.4	200.0	50.0	125.0	10M

Characteristics(Reference)





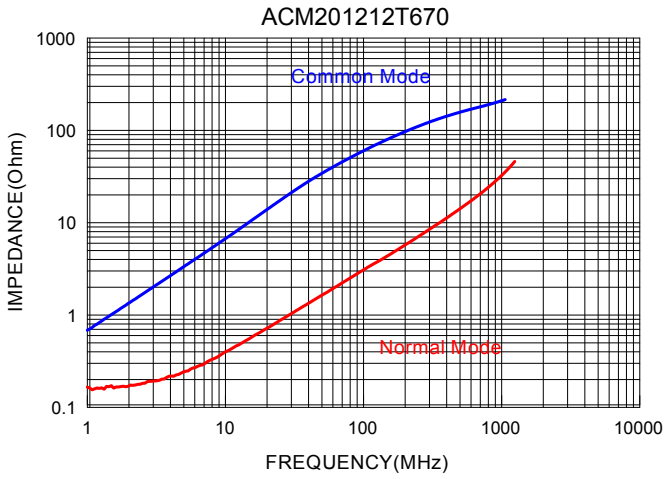


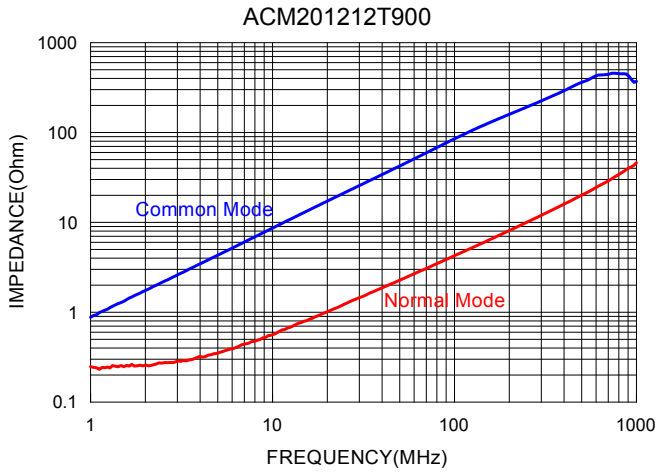


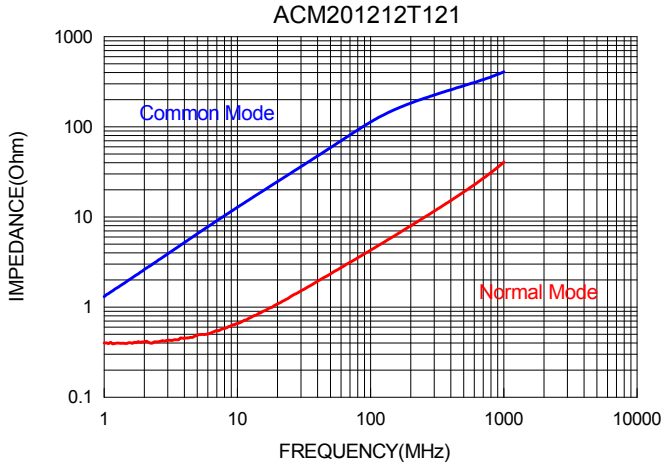
Electrical Characteristics

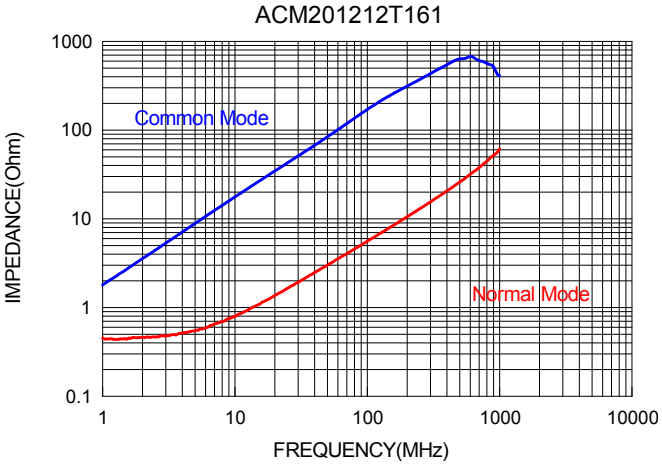
Part Number	Common Mode Impedance Z(Ω) @100MHz	DC Resistance (Ω) Max.	Rated Current IDC(mA) Max.	Rated Voltage Vdc(V)	Withstanding Voltage Vode(V)	Insulation Resistance (Ω)Min.
ACM201212T670	67.0	0.25	400.0	50.0	125.0	10M
ACM201212T900	90.0	0.3	400.0	50.0	125.0	10M
ACM201212T121	120.0	0.3	400.0	50.0	125.0	10M
ACM201212T161	160.0	0.35	350.0	50.0	125.0	10M
ACM201212T181	180.0	0.35	350.0	50.0	125.0	10M
ACM201212T201	200.0	0.4	300.0	50.0	125.0	10M
ACM201212T221	220.0	0.4	300.0	50.0	125.0	10M
ACM201212T261	260.0	0.4	300.0	50.0	125.0	10M
ACM201212T361	360.0	0.5	300.0	50.0	125.0	10M

Characteristics(Reference)

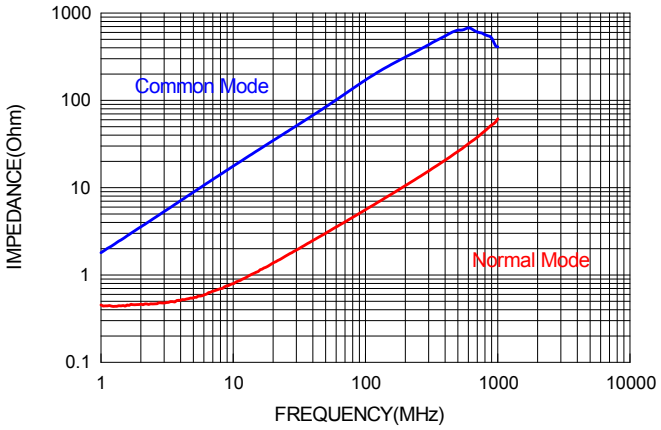








ACM201212T181



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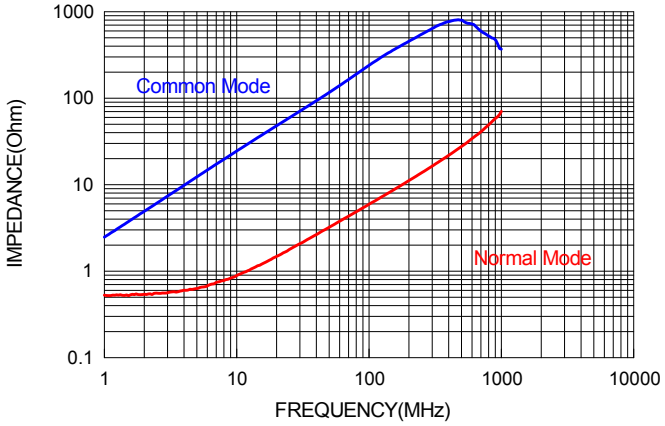

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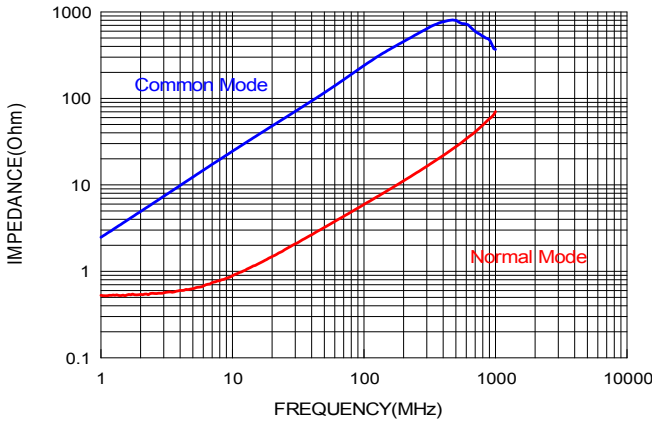

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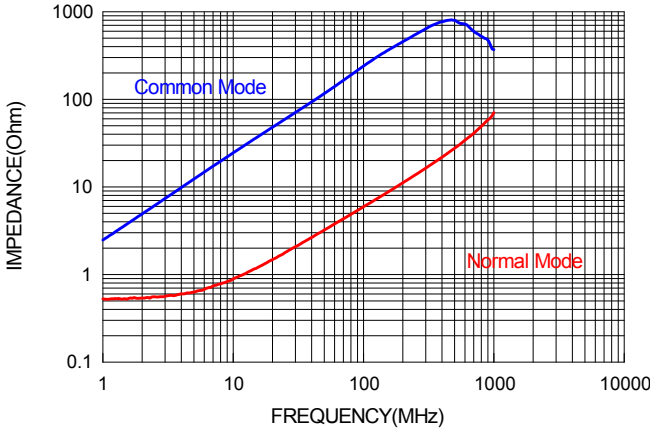

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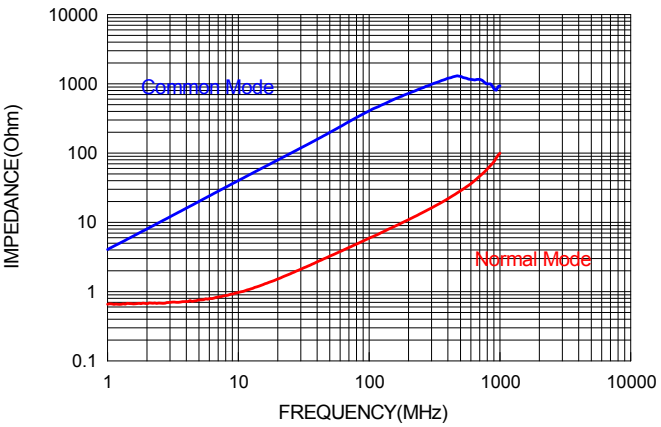
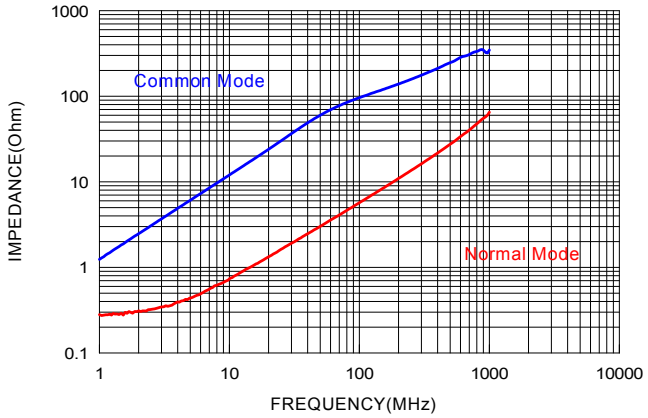


Electrical Characteristics

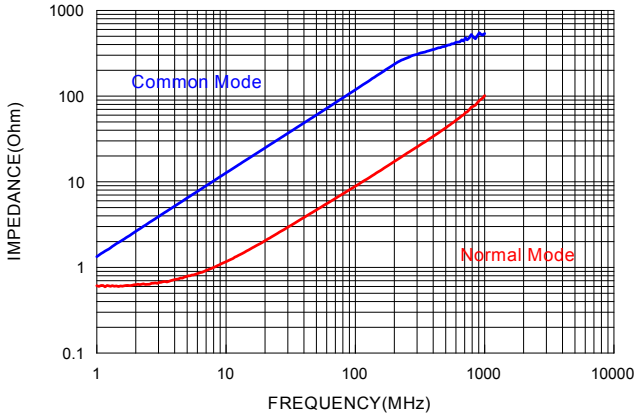
Part Number	Common Mode Impedance Z(Ω) @100MHz	DC Resistance (Ω) Max.	Rated Current IDC(mA) Max.	Rated Voltage Vdc(V)	Withstanding Voltage Vode(V)	Insulation Resistance (Ω)Min.
ACM321619T900	90.0	0.3	400.0	50.0	125.0	10M
ACM321619T121	120.0	0.3	350.0	50.0	125.0	10M
ACM321619T161	160.0	0.4	350.0	50.0	125.0	10M
ACM321619T221	220.0	0.45	300.0	50.0	125.0	10M
ACM321619T261	260.0	0.5	300.0	50.0	125.0	10M
ACM321619T361	360.0	0.6	300.0	50.0	125.0	10M
ACM321619T601	600.0	0.8	300.0	50.0	125.0	10M
ACM321619T102	1000.0	1.0	200.0	50.0	125.0	10M
ACM321619T222	2200.0	1.2	200.0	50.0	125.0	10M

Characteristics(Reference)

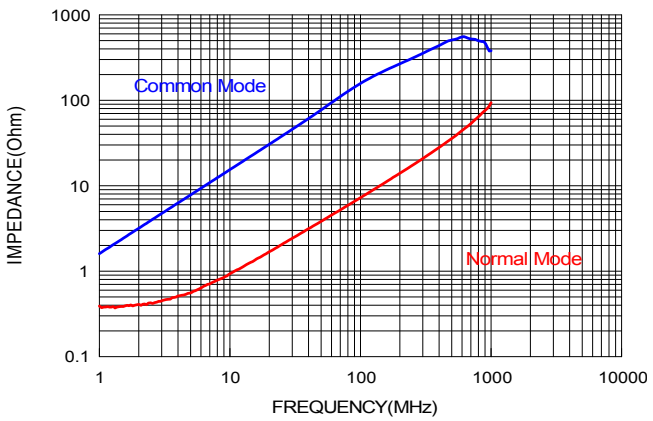
ACM321619T900



ACM321619T121



ACM321619T161



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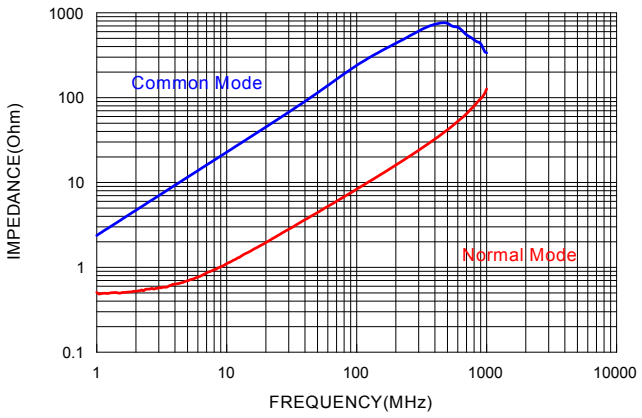
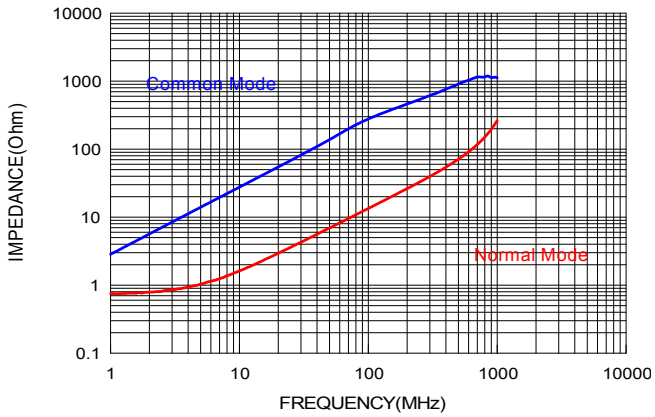


ACM321619T261



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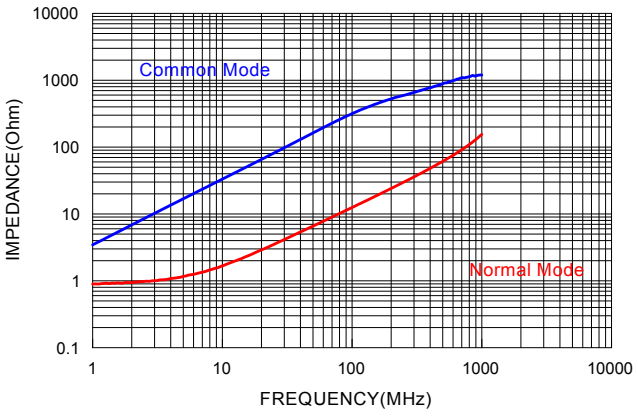
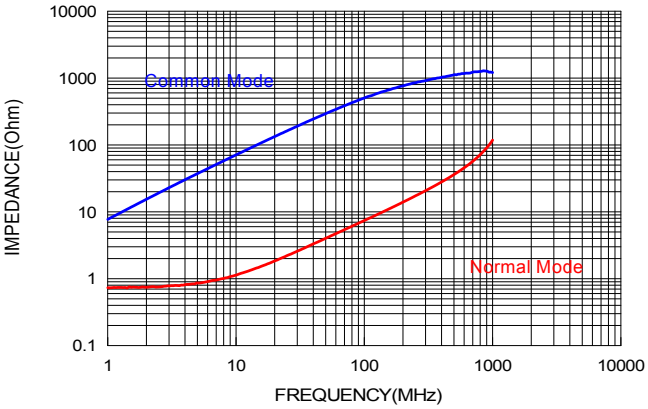
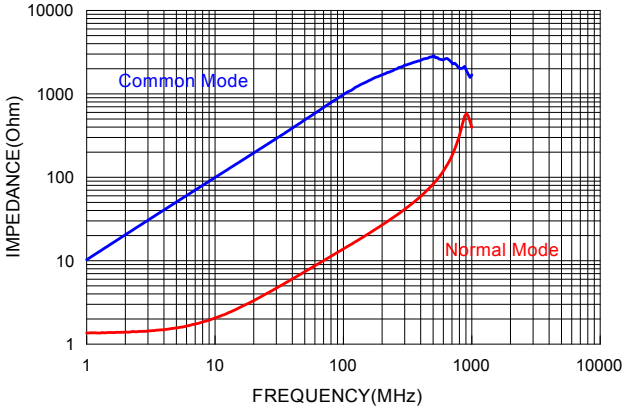


ACM321619T601



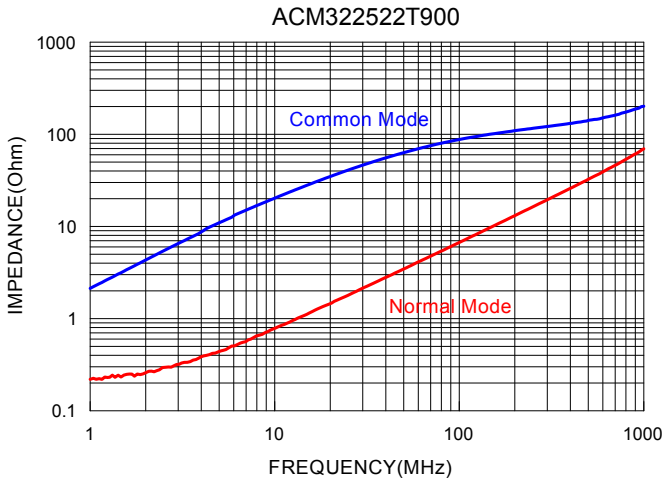
ACM321619T102

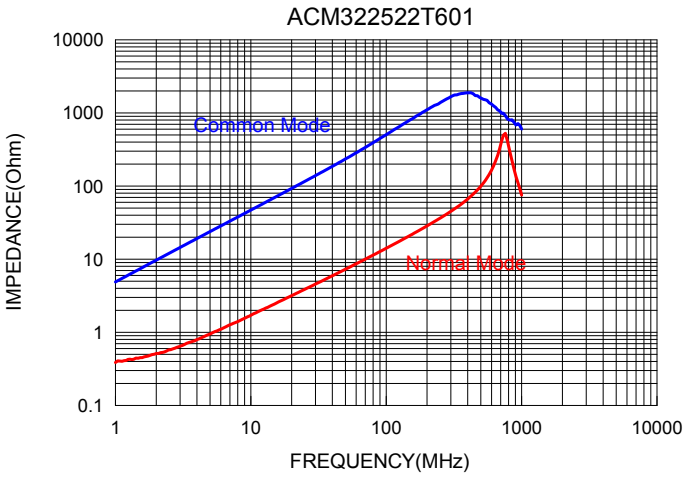


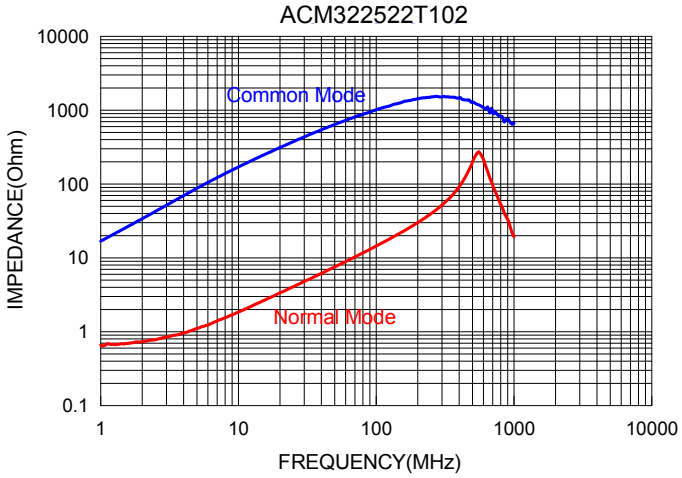
Electrical Characteristics

Part Number	Common Mode Impedance Z(Ω) @100MHz	DC Resistance (Ω) Max.	Rated Current IDC(mA) Max.	Rated Voltage Vdc(V)	Withstanding Voltage Vode(V)	Insulation Resistance (Ω)Min.
ACM322522T900	90.0	0.05	1000.0	50.0	125.0	10M
ACM322522T601	600.0	0.2	1000.0	50.0	125.0	10M
ACM322522T102	1000.0	0.3	400.0	50.0	125.0	10M

Characteristics(Reference)





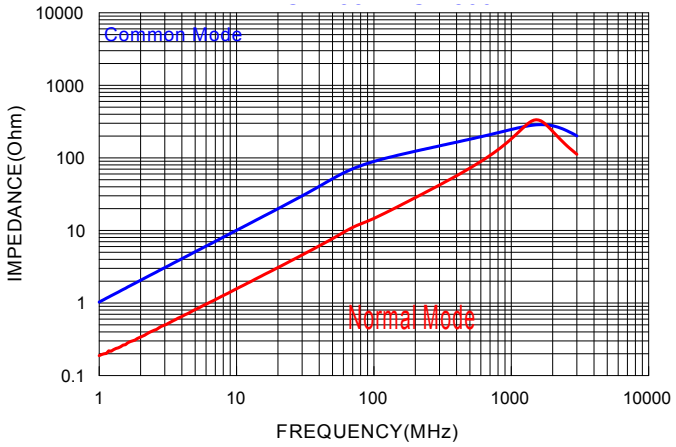


Electrical Characteristics

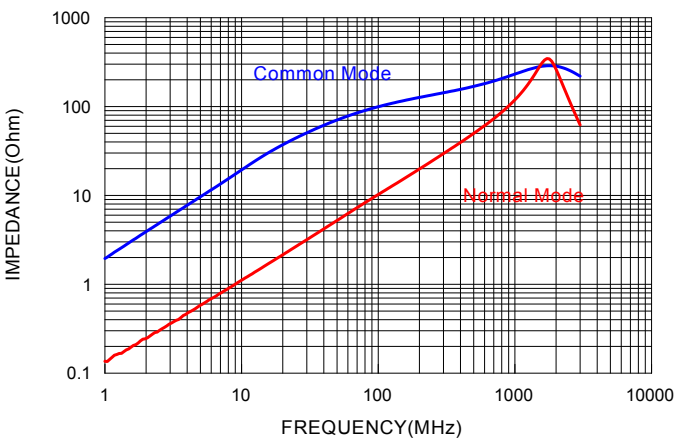
Part Number	Common Mode Impedance Z(Ω) @100MHz	DC Resistance (Ω) Max.	Rated Current IDC(mA) Max.	Rated Voltage Vdc(V)	Withstanding Voltage Vode(V)	Insulation Resistance (Ω)Min.
ACM453228T800	80.0	0.05	3000.0	50.0	125.0	10M
ACM453228T900	90.0	0.05	3000.0	50.0	125.0	10M
ACM453228T121	120.0	0.05	3000.0	50.0	125.0	10M
ACM453228T201	200.0	0.1	1500.0	50.0	125.0	10M
ACM453228T601	600.0	0.24	1500.0	50.0	125.0	10M
ACM453228T801	800.0	0.24	1000.0	50.0	125.0	10M

Characteristics(Reference)

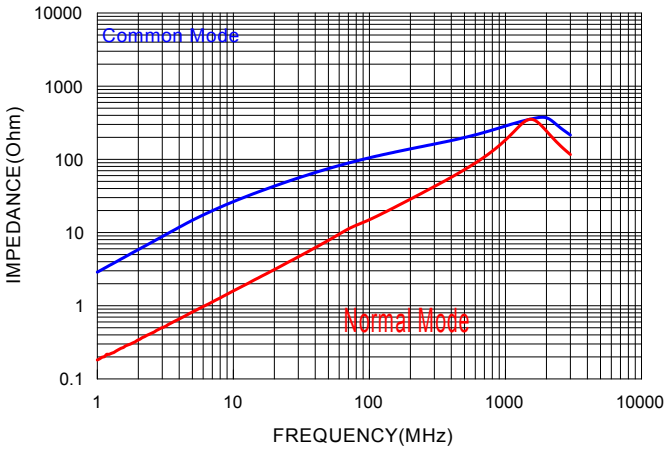
ACM453228T800



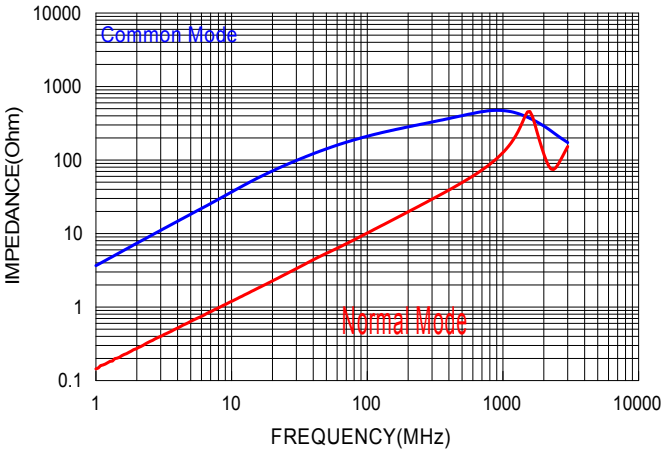
ACM453228T900



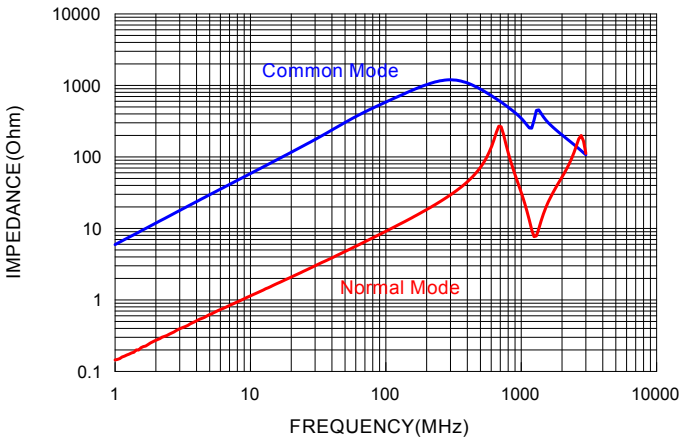
ACM453228T121



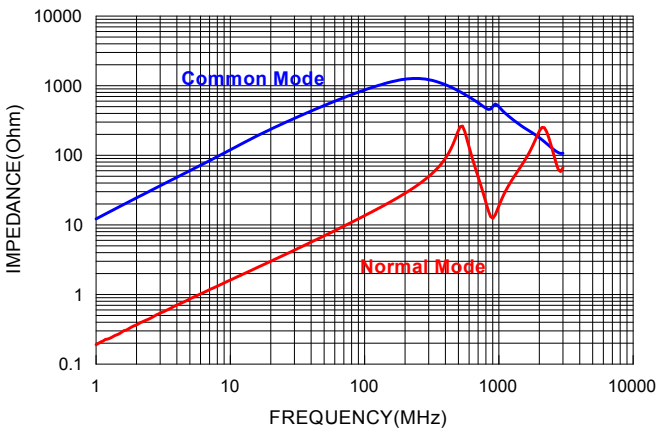
ACM453228T201



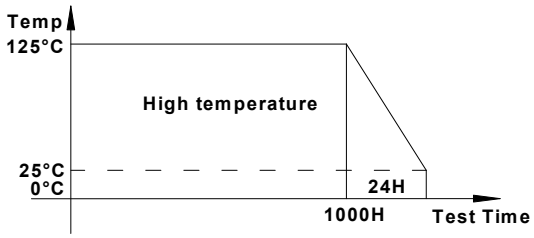
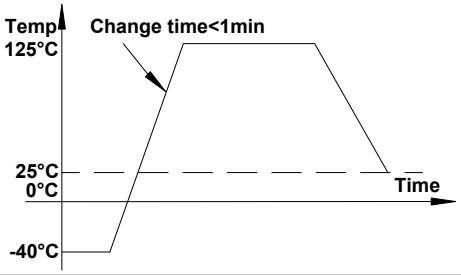
ACM453228T601

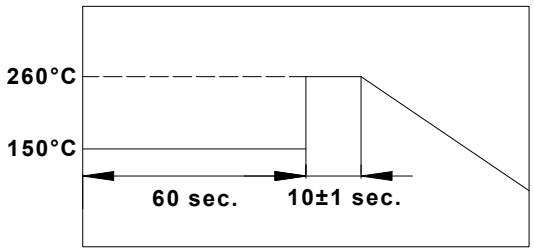
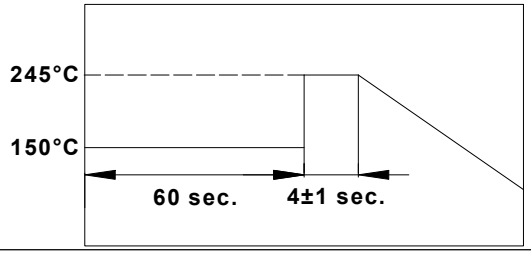


ACM453228T801

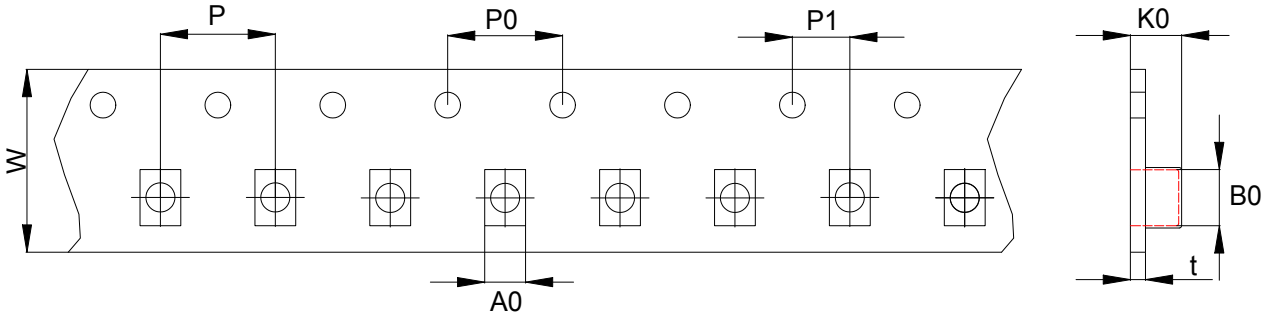


Reliability Test

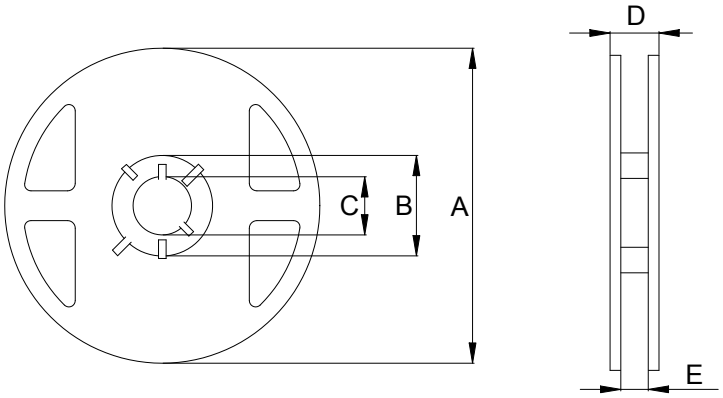
Item	Specifications	Test conditions
High temperature storage test	No visible mechanical damage. Impedance change: Within ±15%.	Temperature: 125±2℃. Duration:1000hrs. Measured at room temperature after placing for 24±4 hrs. 
Temperature cycling test	No visible mechanical damage. Impedance change: Within ±15%.	Condition for 1 cycle. Step1：-40±2℃ 30min Min. Step2：125±2℃, transition time 1min Max. Step3：125±2℃ 30min Min. Step4：Low temp, transition time 1min Max. Number of cycles：1000. Measured at room temperature after placing for 24±4 hrs. 
Biased humidity test	No visible mechanical damage. Impedance change: Within ±15%.	Humidity :85％±3 RH. Temperature：85℃±2℃. Duration : 1000hrs. Measured at room temperature after placing for24±4 hrs.
Operational life test	No visible mechanical damage. Impedance change: Within ±15%.	Temperature:105±2℃. Duration :1000hrs. Measured at room temperature after placing for24±4 hrs.

Item	Specifications	Test conditions
Resistance to solvent test	No visible mechanical damage. Impedance change: Within ±15%.	Add aqueous wash chemical - OKEM clean or equivalent.
Vibration test	No visible mechanical damage. Impedance change: Within ±15%.	Oscillation Frequency: 10～2K～10Hz for 20 minute. Total Amplitude:1.52mm±10%. Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations).
Resistance to soldering heat test	No visible mechanical damage. Impedance change: Within ±15%.	Temperature (°C): 260 ±5 (solder temp). Time (s): 10 ±1. ramp/immersion and emersion rate: 25mm/s ±6 mm/s. Number of heat cycles:1. 
Solderability test	More than 95% of the terminal electrode should be covered with solder.	Steam Aging: 8 hours ± 15 min. Preheat: 150℃,60sec. Solder: Sn99.5%-Cu0. 5%. Temperature: 245±5℃. Flux for lead free: Rosin. 9.5%. Dip time: 4±1sec. Depth: completely cover the termination. 
Terminal strength (SMD) test	No visible mechanical damage.	With the component mounted on a PCB with the device to be tested,apply a 17.7 N (1.8 Kg) force to the side of a device（ACM322522/ACM453228）being tested. This force shall be applied for 60 +1 seconds. Apply a 10 N (1 Kg) force to the side of a device （ ACM121009/ACM201212/ACM321619 ）being tested. This force shall be applied for 30 seconds. Also the force shall be applied radually as not to apply a shock to the component being tested.

Packaging(Unit:mm)



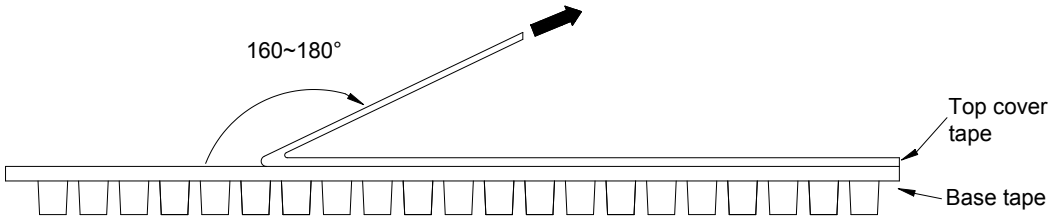
Type	W	P	P0	P1	A0	B0	K0	t
ACM121009	8.0	4.0	4.0	2.0	1.12	1.4	1.05	0.22
ACM201212	8.0	4.0	4.0	2.0	1.5	2.35	1.45	0.28
ACM321619	8.0	4.0	4.0	2.0	1.88	3.5	2.2	0.26
ACM322522	8.0	4.0	4.0	2.0	2.88	3.72	2.5	0.26
ACM453228	12.0	8.0	4.0	2.0	3.6	4.9	3.0	0.26



Type	A	B	C	D	E
ACM121009	178.0±2.0	60.0±2.0	13.5±2.0	13.0±2.0	9.0±2.0
ACM201212	178.0±2.0	60.0±2.0	13.5±2.0	13.0±2.0	9.0±2.0
ACM321619	178.0±2.0	60.0±2.0	13.5±2.0	13.0±2.0	9.0±2.0
ACM322522	178.0±2.0	60.0±2.0	13.5±2.0	13.0±2.0	9.0±2.0
ACM453228	178.0±2.0	60.0±2.0	13.5±2.0	17.0±2.0	13.0±2.0

Cover Tape Peel Strength

The force for tearing off cover tape is 15~80(g) in the arrow direction at the following conditions,
Temperature : 5 ~ 35℃,Hmidity : 45 ~ 85%,Atmospheric pressure : 860 ~ 1060 hpa.



Recommended Soldering Technologies

Re-flowing Profile:

△ Preheat condition: 150~200℃/60~120sec.

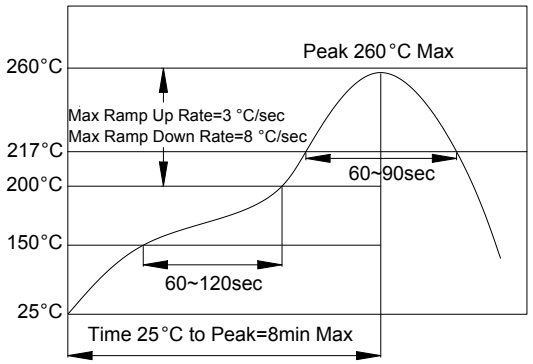
△ Allowed time above 217℃: 60~90sec.

△ Max temp: 260℃

△ Max time at max temp: 5sec.

△ Solder paste: Sn/3.0Ag/0.5Cu

△ Allowed Reflow time: 2x max



Iron Soldering Profile:

△ Iron soldering power: Max.30W

△ Pre-heating: 150℃/60sec.

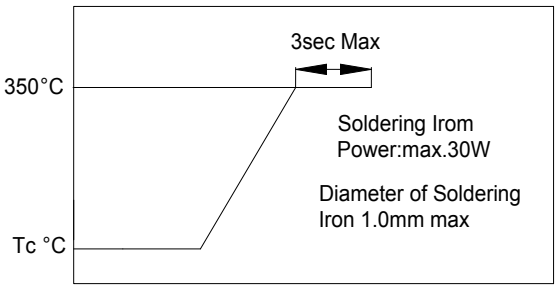
△ Soldering Tip temperature: 350℃Max.

△ Soldering time: 3sec Max.

△ Solder paste: Sn/3.0Ag/0.5Cu

△ Max.1 times for iron soldering

[Note: Take care not to apply the tip of the soldering iron to the]



Attention in Case of Using

In case of using product ,please avoid following matters:

Sokasgubg water ir salt water

Dew condenses

Toxic gas (Hydrogen sulfide, Sulfurous acid , Chlorine , Ammonia)

Vibrations or shocks which exceed the specified condition

Please be careful for the stress to this product by board flexure or something aftee the mounting.