

# SPECIFICATION FOR APPROVAL

## INDEX

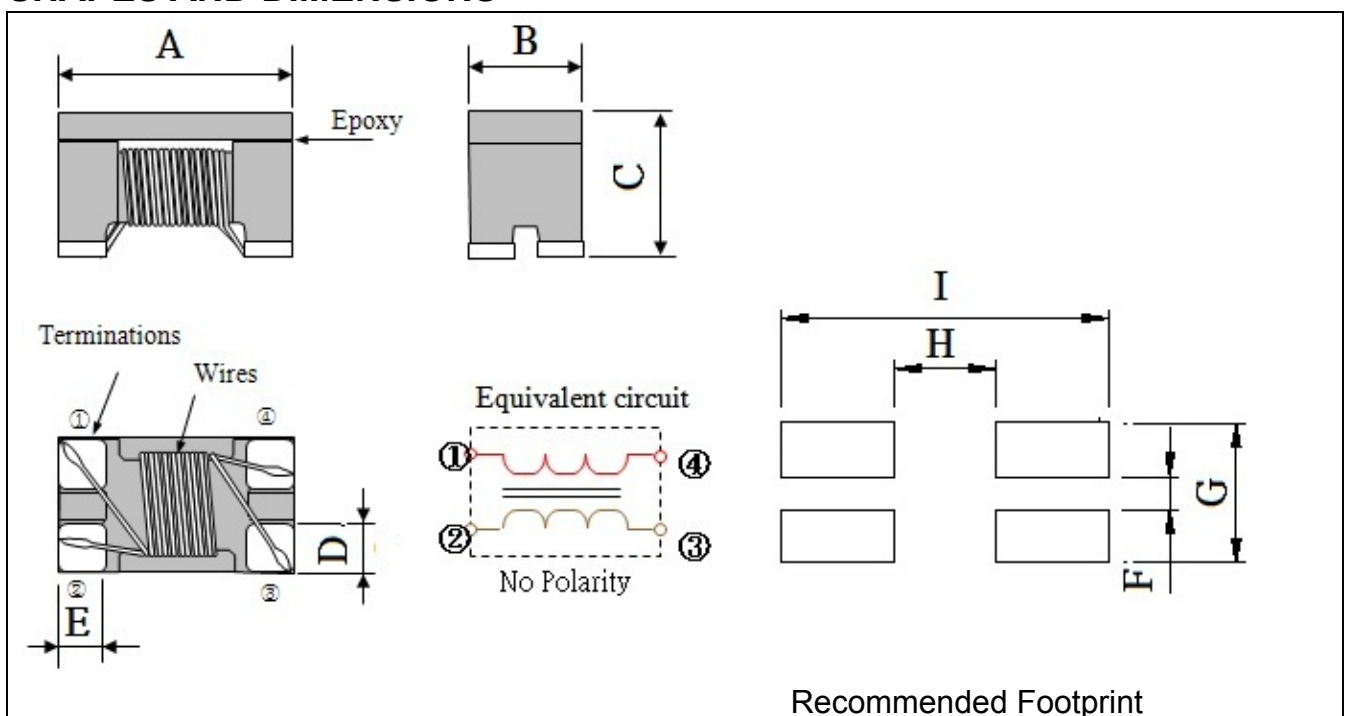
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## PRODUCT DETAIL

Electrical Characteristics			Test Instruments
<b>Z</b>	See Page.4-10	<b>TEST FREQ:</b> 100MHz  <b>Ope Temp.:</b> -25°C~85°C	<ul style="list-style-type: none"> <li>• Impedance : Agilent E4991A RF Impedance Analyzer.</li> <li>• DCR : Chroma 16502 mill ohm meter.</li> <li>• Insulation Resistance : Chroma 19073 ;</li> </ul>
<b>DCR</b>	See Page.4-10		
<b>R.Current</b>	See Page.4-10		
<b>Rated Voltage</b>	See Page.4-10		
<b>Withstanding Voltage</b>	See Page.4-10		
<b>Insulation Resistance</b>	See Page.4-10		

## SHAPES AND DIMENSIONS



P/N	Item /Spec.(mm)								
	A	B	C	D	E	F	G	H	I
<b>SCMM2012U, H, D SERIES</b>	2.0±0.2	1.2±0.2	1.2±0.2	0.4	0.45	0.4	1.2	1.0	2.6
<b>SCMM2012F SERIES</b>	2.0±0.2	1.2±0.2	1.2±0.2	0.4	0.45	0.4	1.2	0.8	2.6
<b>SCMM3216F SERIES</b>	3.2±0.2	1.6±0.2	1.9±0.2	0.6	0.6	0.4	1.6	1.6	3.7



## PART NUMBER CODE

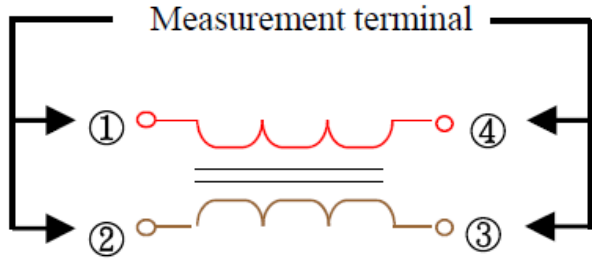
SCMM   2012   F   670   2P   A  
1        2        3        4        5        6

1. Series Name
2. Size Code
3. Identification Code : H&D=HDMI ; U= USB 3.0 ; F= USB 2.0, IEEE1394 or LVDS etc.
4. Impedance (R=Decimal Point) Unit :  $\Omega$
5. Number of Line : 2P : 2-Line
6. Soldering : A=Lead free

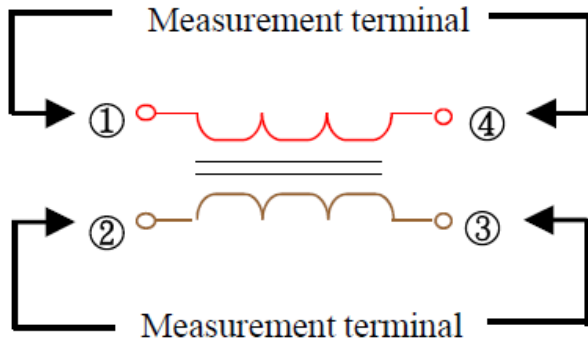


## TEST EQUIPMENT

1. **Impedance** : Measured by using Agilent E4991A RF Impedance Analyzer.

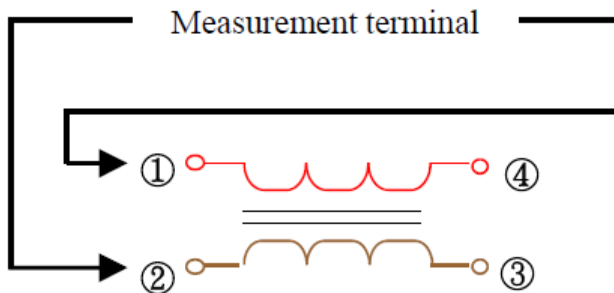


2. **DC Resistance** : Measured by Chroma 16502 mill ohm meter.



3. **Insulation Resistance** :

Measured by Chroma 19073 ; Measurement voltage : 50V. Measurement time: 60 sec.

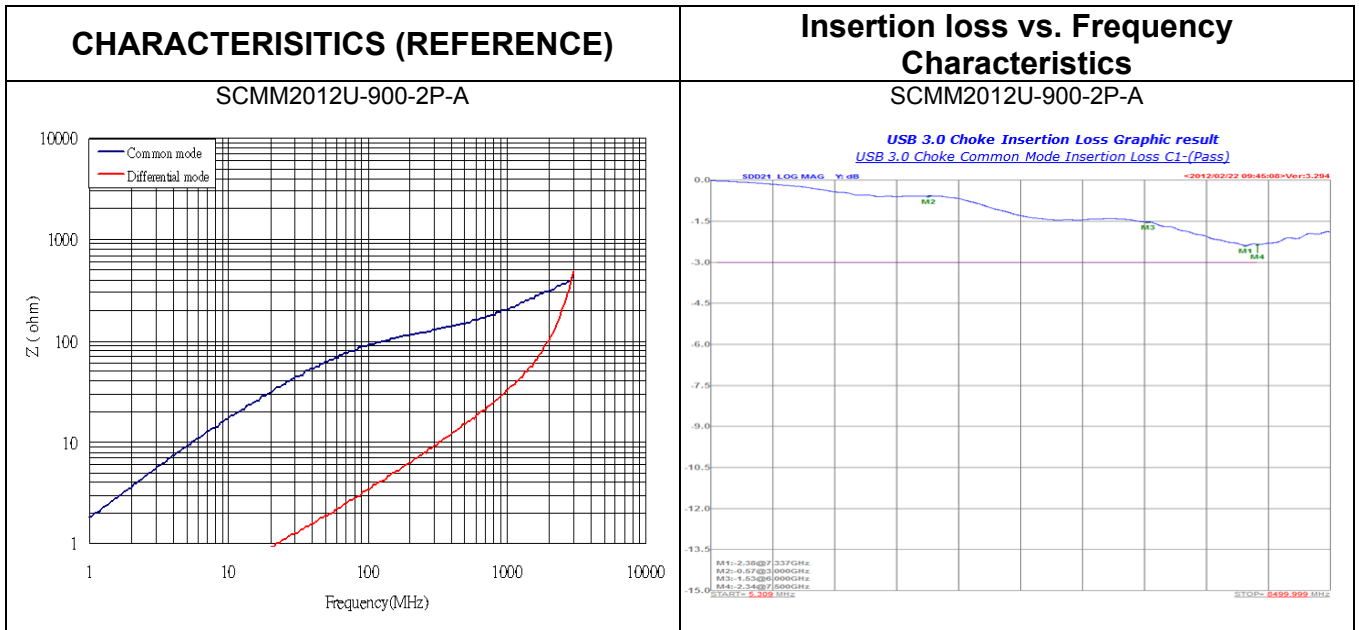




## ELECTRICAL CHARACTERISTICS

### SCMM2012U series SMD Common Mode Filter for Super Speed USB3.0

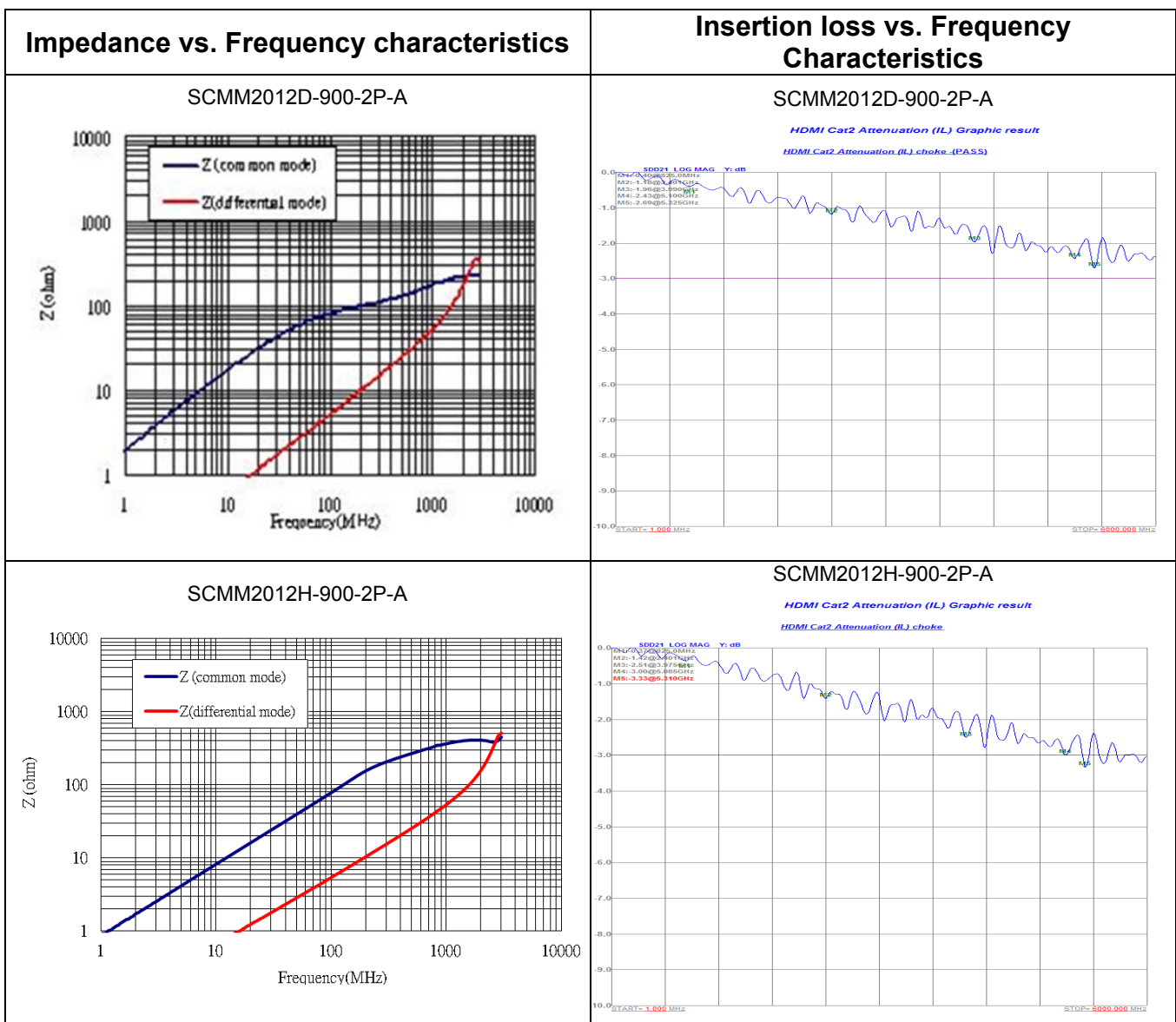
Part Number	Impedance (Ω) at 100MHz	DC Resistance (Ω)max	Rated Current (mA) max	Rated Voltage (Vdc)	Cut-off Frequency (GHz) Typ.	Insulation Resistance (MΩ) min.
SCMM2012U-900-2P-A	90 ±25%	0.25	300	20	7	10





**SCMM2012H series**  
**SMD Common Mode Filter for HDMI**

Part Number	Impedance (Ω) at 100MHz	DC Resistance (Ω)max	Rated Current (mA) max	Rated Voltage (Vdc)	Cut-off Frequency (GHz) Typ.	Insulation Resistance (MΩ) min.
SCMM2012D-900-2P-A	65min.(90typ)	0.25	300	20	6	10
SCMM2012H-900-2P-A	65min.(90typ)	0.25	300	20	4	10





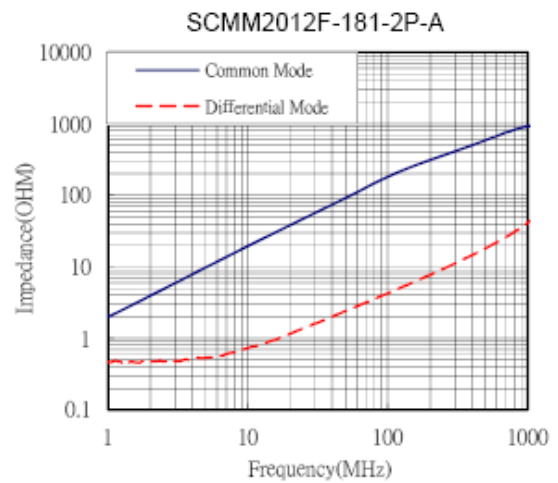
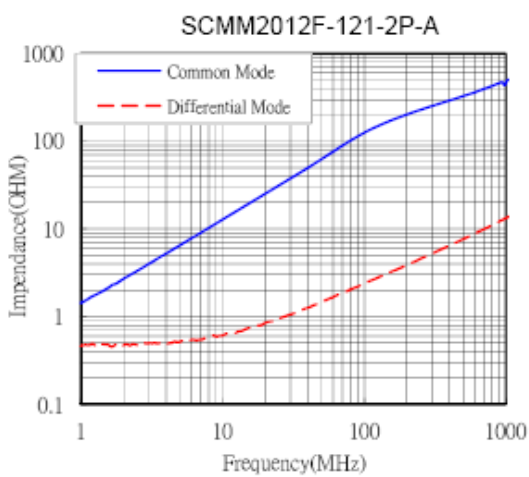
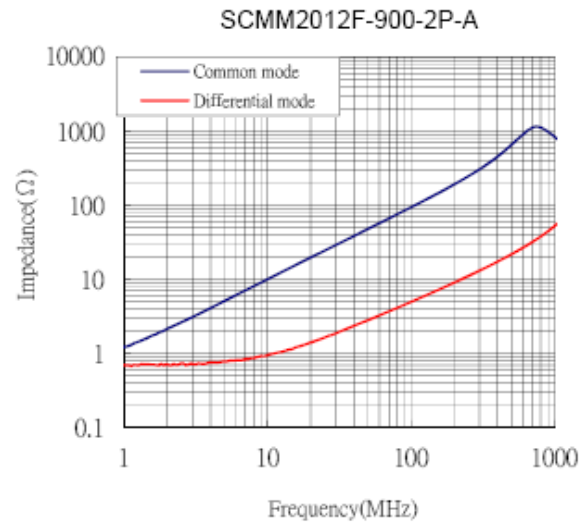
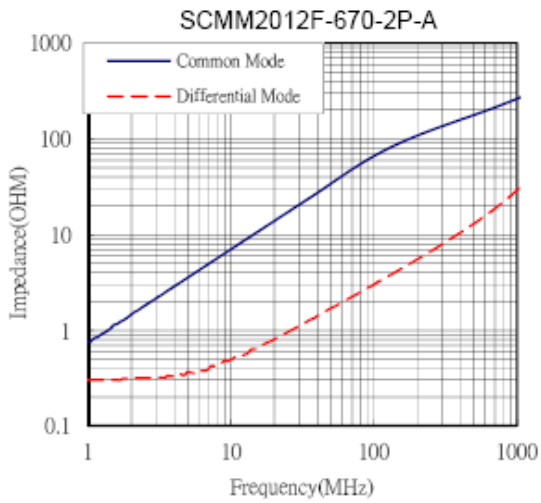
**SCMM2012F series**

Part Number	Common-Mode Impedance Z( $\Omega$ ) at 100MHz	DC Resistance Rdc( $\Omega$ ) max	Rated Current Idc(mA) max	Rated Voltage Vdc(V)	Withstanding Voltage Vdc(V)	Insulation Resistance (M $\Omega$ )min
SCMM2012F-300-2P-A	30 $\pm$ 25%	0.20	450	50	125	10
SCMM2012F-670-2P-A	67 $\pm$ 25%	0.25	400	50	125	10
SCMM2012F-900-2P-A	90 $\pm$ 25%	0.3	400	50	125	10
SCMM2012F-121-2P-A	120 $\pm$ 25%	0.3	370	50	125	10
SCMM2012F-161-2P-A	160 $\pm$ 25%	0.35	350	50	125	10
SCMM2012F-181-2P-A	180 $\pm$ 25%	0.35	330	50	125	10
SCMM2012F-221-2P-A	220 $\pm$ 25%	0.35	330	50	125	10
SCMM2012F-261-2P-A	260 $\pm$ 25%	0.4	300	50	125	10
SCMM2012F-361-2P-A	360 $\pm$ 25%	0.4	280	50	125	10
SCMM2012F-371-2P-A	370 $\pm$ 25%	0.4	280	50	125	10
SCMM2012F-601-2P-A	600 $\pm$ 25%	0.6	220	50	125	10



## CHARACTERISTICS (REFERENCE)

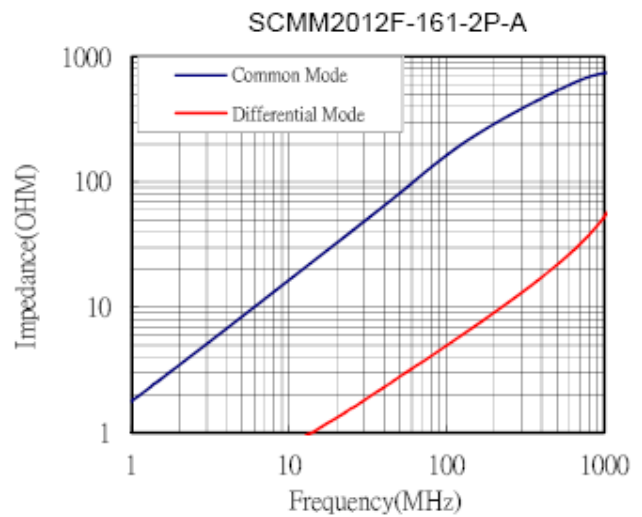
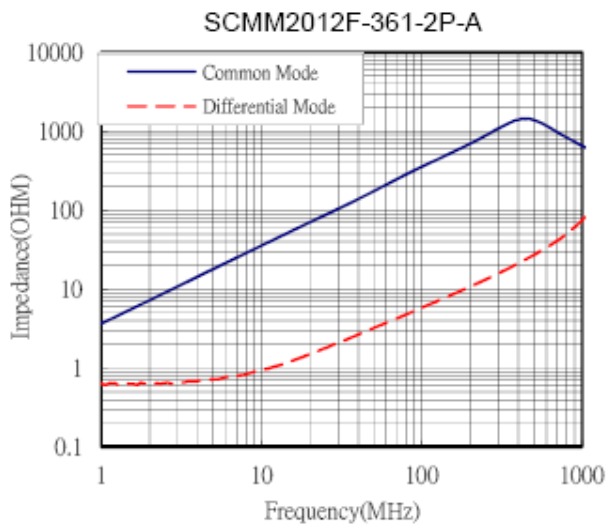
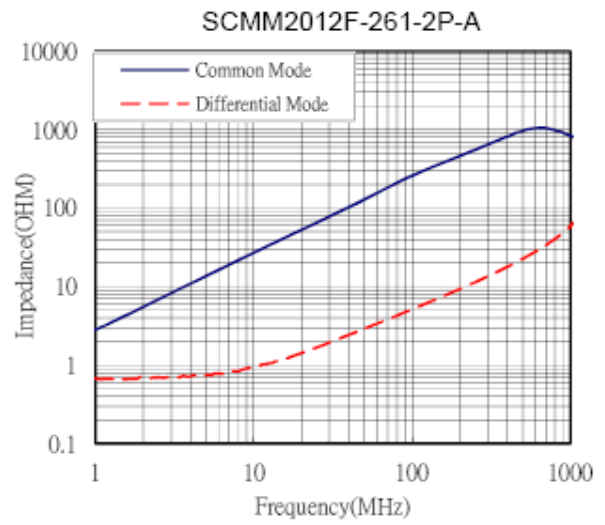
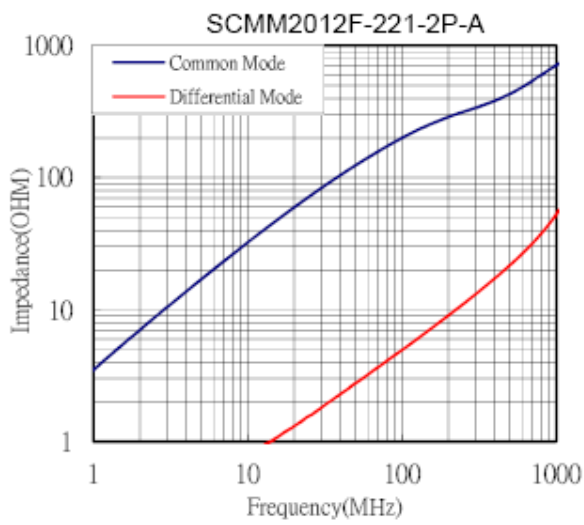
### SCMM2012F series







**SCMM2012F series**





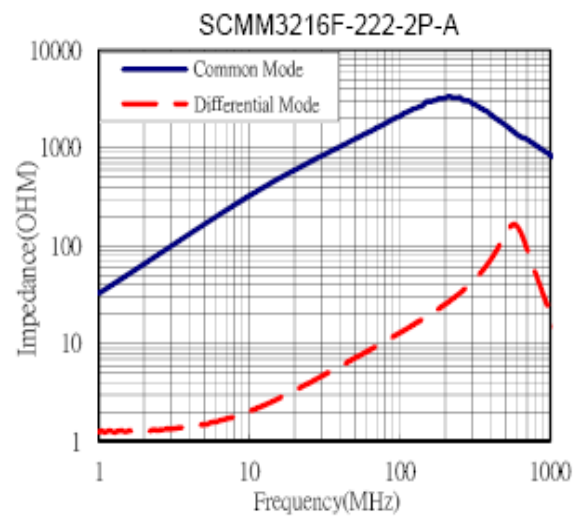
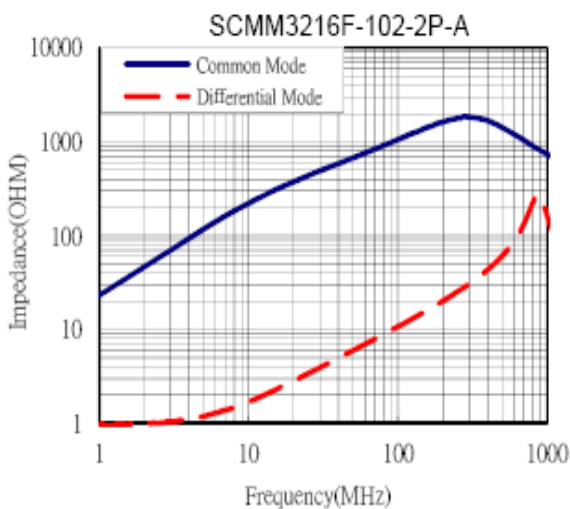
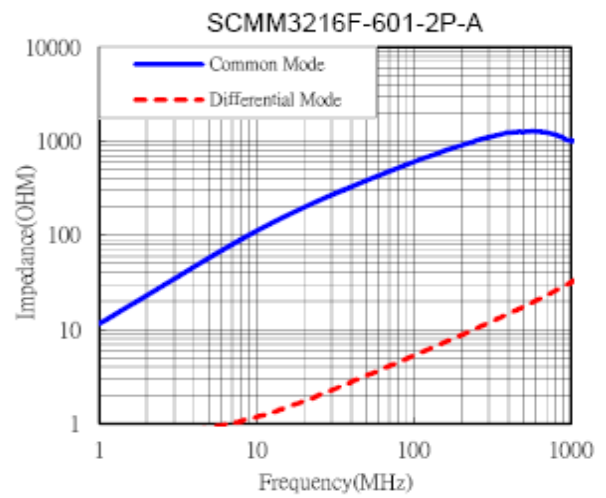
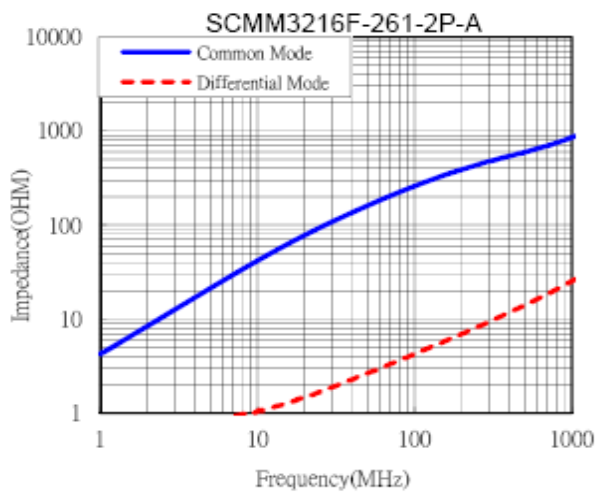
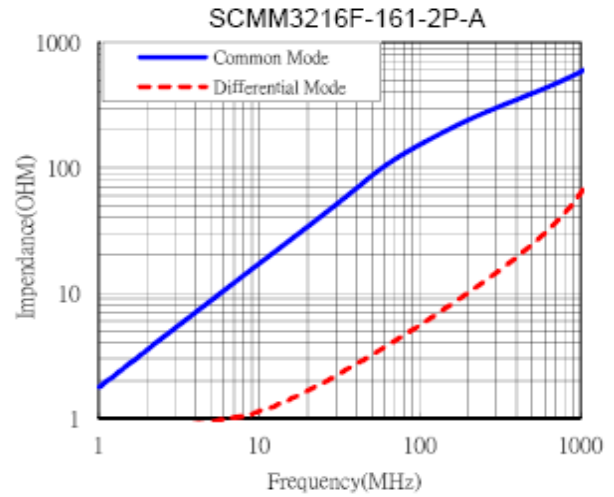
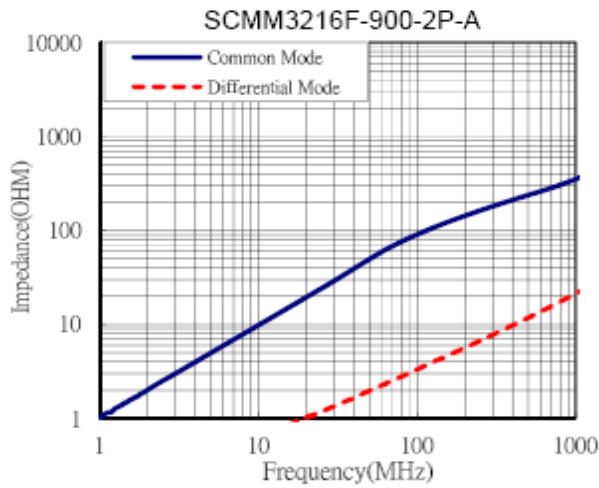
**SCMM3216F series**

Part Number	Common-Mode Impedance Z( $\Omega$ ) at 100MHz	DC Resistance Rdc( $\Omega$ ) max	Rated Current Idc(mA) max	Rated Voltage Vdc(V)	Withstanding Voltage Vdc(V)	Insulation Resistance (M $\Omega$ )min
SCMM3216F-900-2P-A	90 $\pm$ 25%	0.3	400	50	125	10
SCMM3216F-161-2P-A	160 $\pm$ 25%	0.4	350	50	125	10
SCMM3216F-261-2P-A	260 $\pm$ 25%	0.5	310	50	125	10
SCMM3216F-601-2P-A	600 $\pm$ 25%	0.8	260	50	125	10
SCMM3216F-102-2P-A	1000 $\pm$ 25%	1	230	50	125	10
SCMM3216F-222-2P-A	2200 $\pm$ 25%	1.2	200	50	125	10



## CHARACTERISTICS (REFERENCE)

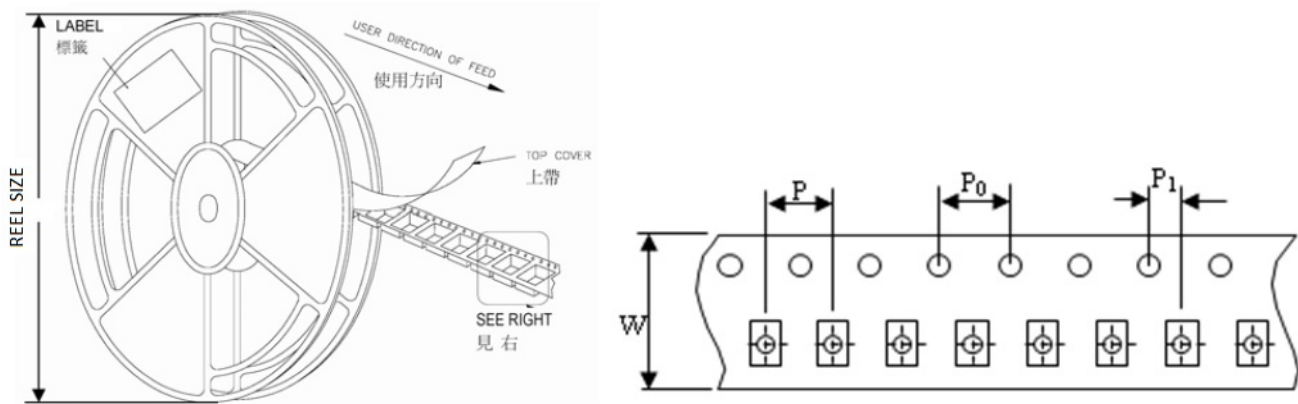
### SCMM3216F series





**REEL DIMENSIONS :**

Unit: mm

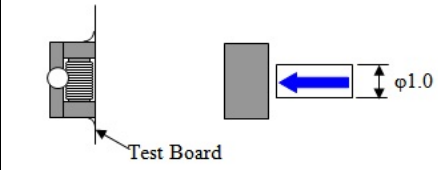
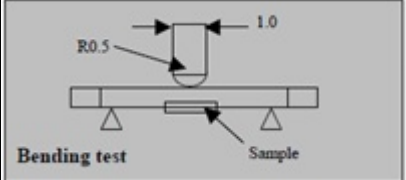
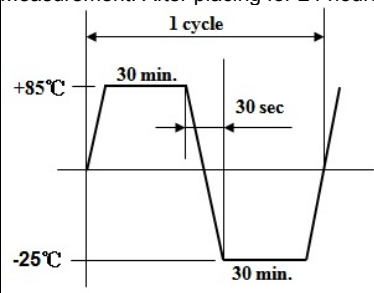


**REEL PACKAGING QUANTITY**

TYPE	W	P	P0	P1	REEL SIZE	PCS / REEL
SCMM2012	8	4	4	2	180 mm (7")	2000
SCMM3216	8	4	4	2	180 mm (7")	2000



**RELIABILITY AND TEST CONDITION**

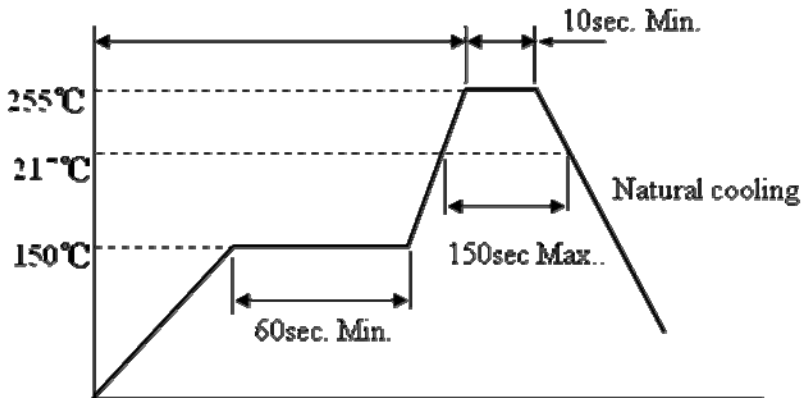
Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
Solderability	It can be connected on the Recommendation soldering condition.	Apply cream solder to the test circuit board. It is mounted on the recommendation soldering condition. Dip pads in flux and dip in solder pot( 96.5 Sn/3.5 Ag solder) at 255°C ±5°C.
Terminal strength	The terminal electrode and the ferrite must not be damaged.	Solder a chip to test substrate, and then laterally apply a load 0.5Kg in the arrow direction. 
Strength on pc board bending	The terminal electrode and the ferrite must not be damaged.	Soldering a chip to a test substrate, bend the substrate by 2mm and then return.  Test board : Glass base epoxy multilayer board pc board pattern. PC board pattern : Recommended PC board pattern.
High temperature resistance		Temperature : +85±2°C Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours Measurement : After placing for 24 hours min.
Humidity resistance		Temperature : +85±2°C Humidity : 90 to 95%RH Applied voltage : Rated voltage Applied current : Rated current Testing time : 500±12 hours Measurement : After placing for 24 hours min.
Thermal shock	Appearance: Ferrite shall not be damaged. Impedance: Within ±20% of the initial value. Insulation resistance: >10(MΩ) DC resistance: standard value inside.	Inductors shall be subjected to 100 cycles to the following temperature cycle: kept stabilized for 30 minutes each. Measurement: After placing for 24 hours min. 
Low temperature storage		Temperature : -25±2°C Testing time : 500±12 hours Measurement : After placing for 24 hours min.
Vibration	Appearance: Ferrite shall not be damaged.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x, y and z directions for 2 house for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.52mm



## RECOMMENDED SOLDERING CONDITIONS

### Recommended Reflow Pattern (Please use this product by reflow soldering)

Reflow: until two times



### Iron Soldering

Use a solder iron of less than 30W when soldering, do not allow the soldering iron tip directly touch the Ceramic body outside of terminal electrode.

4 seconds max. at 260°C.

### Attention in Case of Using

In case of using product, please avoid following matters:

Splashing water or 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 after the mounting.

### GENERAL TECHNICAL DATA

Operating temperature range : -25~+85°C

Storage condition : Temperature 20~25°C, Relative Humidity 40% ~ 60%.

Recommended wire wound inductors should be used within 6 months from the time of delivery.