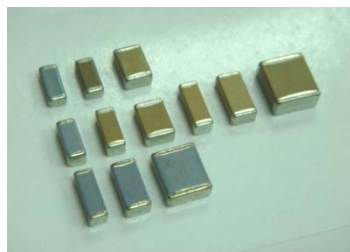


## SCC Series

### Safety Capacitors rated to 250Vac

#### X1/Y2, X2/Y3 & X2



The SCC series of **X1/Y2**, **X2/Y3** & **X2** safety capacitors are designed specifically for use in modem, facsimile, telephone and other electronic equipment. These parts are compliant to EN/IEC60384-14 and UL60950-1 standards. These capacitors are available in NP0 (C0G), SL and X7R dielectrics.

#### ◆ Features

- ❑ Small size & high capacitance values.
- ❑ Suitable for reflow soldering.
- ❑ Surface mount.
- ❑ RoHS compliant and Lead (Pb) free option.
- ❑ Safety standard approval by EN/IEC 60384-14 and UL 60950-1.
- ❑ Certified to:
  - TUV R50005234, R50103496 & UL E229738
  - TUV R50162550 & UL E229738 for Lead (Pb) free.

#### ◆ Application

- ❑ Specially designed for use in modem, facsimile, telephone and other telecommunication equipment, electronic equipment for lightning and surge protection, EMI filtering and isolation.

#### ◆ Safety Detail of Specifications

EN 60384-1: 2001 EN 60384-14: 2005	Meets the electrical requirements and certification for equipment requiring class X1/Y2 and X2/Y3 devices.
IEC 60950-1 : 2005	Component certified for equipment requiring IEC 60950 compliance
IEC 60384-1: 1999 IEC 60384-14: 2005	Component certified for equipment requiring IEC-384 compliance
UL 60950-1: 2007 2nd edition	TNV/SELV Isolation capacitors certified to UL 60950 -1

#### ◆ How To Order

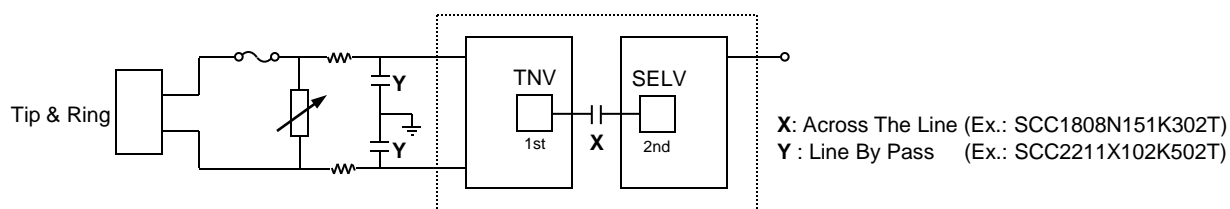
SCC
1808
X
102
K
502
T
S

Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Class	Packaging	Special Requirement
SCC :	Ex. :	Ex. :	Ex. :	Ex. :	Ex. :	T : Tape & Reel B : Bulk	Ex. : S : Arc Prevention Coating X : Polymer Termination (SuperTerm) Z : Arc Prevention Coating & SuperTerm G : Lead (Pb) free
Safety approved	1808	N : NP0	2R0 : 2.0pF	J : +/- 5%	202 : X2		
MLCC	1812	X : X7R	100 : 10×10 <sup>0</sup>	K : +/-10%	302 : X2/Y3		
	2208	L : SL	471 : 47×10 <sup>1</sup>	M : +/-20%	502 : X1/Y2		
	2211		182 : 18×10 <sup>2</sup>		602 : X1/Y2 for SCC2208N, SCC2211N, SCC2220N		
	2220						
	2825						

## ◆ Summary of Specifications

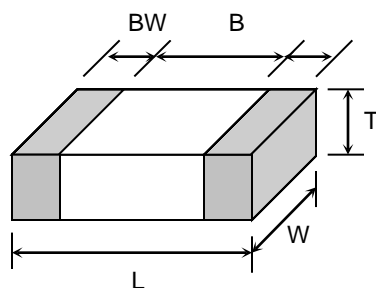
Rated Voltage	AC 250Vrms
Temperature Coefficient	NP0 : < 30ppm/ °C , -55~+125 °C (EIA Class I )
	SL: +350~ -1000ppm/°C -55~+85°C
	X7R : < ± 15% , -55~+125 °C (EIA Class II )
Capacitance Range	See table below
Quality and Dissipation Factor	NP0/SL : $Q \geq 1000$ ; X7R : D.F. $\leq 2.5\%$
Climatic Category	-55/125/21
Insulation Resistance	10GΩ
Voltage Proof	X Capacitor : Applied Voltage 1075Vdc(4.3Ur) Y Capacitor : Applied Voltage 1500Vac
Impulse	Y3 : 2.5KV (Compliant to IEC 60950) ; X2 : 2.5KV / Y2 : 5KV for three times
Ageing	NP0 : 0 % ; SL : 1.5% ; X7R : 1.0 % per decade hr, typical

## ◆ Application Example Circuit



## ◆ Dimensions

Unit : mm [inches]



TYPE	L	W	T (max)	B (min)	BW (min)
1808	4.60±0.3 [.181±.012]	2.00±0.2 [.079 ±.008]	2.20 [.087]	2.50 [.098]	0.20 [.008]
1812	4.60±0.3 [.181±.012]	3.20±0.3 [.126±.012]	2.60 [.102]	2.50 [.098]	0.20 [.008]
2208	5.70±0.4 [.220±.016]	2.00±0.2 [.079±.008]	2.20 [.087]	4.00 [.157]	0.30 [.012]
2211	5.70±0.4 [.220±.016]	2.80±0.3 [.110±.012]	3.00 [.118]	4.00 [.157]	0.30 [.012]
2220	5.70±0.4 [.220±.016]	5.00±0.4 [.197±.016]	3.00 [.118]	4.00 [.157]	0.30 [.012]
2825	6.80±0.4 [.280±.016]	6.35±0.4 [.197±.016]	4.00 [.157]	4.00 [.157]	0.30 [.012]

## ◆ Capacitance Range

Class	Size	Temperature Characteristic	Rated Voltage	Certificated	Capacitance Range (pF)																																	
					2R0	5R0	6R8	8R2	100	120	150	180	220	270	330	360	390	470	560	680	820	101	121	131	151	181	221	271	331	391	471	561	681	821	102	122	152	182
X2/Y3	1808	NP0	250Vrms	TUV/UL	█																																	
	1808	X7R	250Vrms	TUV/UL	█																																	
	1812	X7R	250Vrms	TUV	█																																	
X1/Y2	1808	NP0	250Vrms	TUV/UL	█																																	
	1808	X7R	250Vrms	TUV/UL	█																																	
	1812	X7R	250Vrms	TUV/UL	█																																	
	2208	NP0	250Vrms	TUV/UL	█																																	
	2208	X7R	250Vrms	TUV/UL	█																																	
	2211	NP0	250Vrms	TUV/UL	█																																	
	2211	X7R	250Vrms	TUV/UL	█																																	
	2220	NP0	250Vrms	TUV/UL	█																																	
	2220	X7R	250Vrms	TUV/UL	█																																	
X2	2825	X7R	250Vrms	TUV	█																																	

## ◆ Capacitance Range Lead (Pb) free



Class	Size	Temperature Characteristic	Rated Voltage	Certificated	Capacitance Range (pF)																																	
					2R0	5R0	6R8	8R2	100	120	150	180	220	270	330	360	390	470	560	680	820	101	121	131	151	181	221	271	331	391	471	561	681	821	102	122	152	182
X2/Y3	1808	NP0	250Vrms	TUV/UL	█																																	
	1808	SL	250Vrms	TUV/UL	█																																	
	1808	X7R	250Vrms	TUV/UL	█																																	
	1812	X7R	250Vrms	TUV/UL	█																																	
X1/Y2	1808	NP0	250Vrms	TUV/UL	█																																	
	1808	X7R	250Vrms	TUV/UL	█																																	
	1812	NP0	250Vrms	TUV/UL	█																																	
	1812	X7R	250Vrms	TUV/UL	█																																	
	2208	NP0	250Vrms	TUV/UL	█																																	
	2208	X7R	250Vrms	TUV/UL	█																																	
	2211	NP0	250Vrms	TUV/UL	█																																	
	2211	X7R	250Vrms	TUV/UL	█																																	
	2220	NP0	250Vrms	TUV/UL	█																																	
	2220	X7R	250Vrms	TUV/UL	█																																	
X2	2220	X7R	250Vrms	TUV/UL	█																																	

'X' denotes values that have been tested to a rated voltage of 305Vac  
TUV test report number 28208004 dated 27<sup>th</sup> May 2010