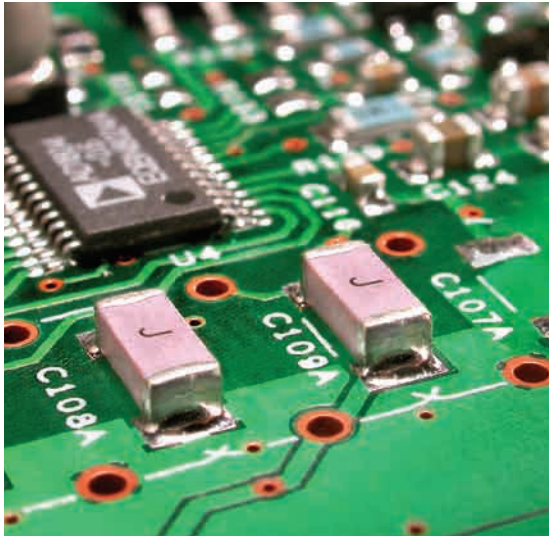


# SAFETY CERTIFIED CAPACITORS

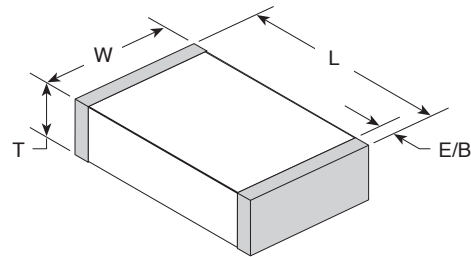


Johanson Dielectrics Type SC ceramic chip capacitors are designed for AC voltage surge and lightning protection in line-to-ground interface applications in computer network, modem, facsimile and other equipment.

Johanson's safety capacitor offering includes four different case sizes and NPO and X7R dielectric materials.

These devices are surface mount ready with barrier terminations and tape and reel packaging.

Additional information on capacitor safety ratings may be found below. Specific certification details may be found under each product listing on the facing page.



SAFETY RATING	VOLTAGE RATING	WITHSTANDING VOLTAGE	IMPULSE VOLTAGE	CASE SIZE	JOHANSON ORDERING P/N
X2/Y3	250 VAC	1,500 VAC	2,500 V	1808	302R29____V_E-****-SC
Y3	250 VAC	1,500 VAC	N/A	1812	302S43____V_E-****-SC
X1/Y2	250 VAC	1,500 VAC	5,000 V	1808	502R29____V_E-****-SC
Y2	250 VAC	1,500 VAC	5,000 V	2211	502R30____V_E-****-SC
X1/Y2	250 VAC	1,500 VAC	5,000 V	2220	502S47____V3E-****-SC

X Capacitors are defined as suitable for use in situations where failure of the capacitor would not lead to danger of electric shock.

Y Capacitors are defined as suitable for use in situations where failure of the capacitor could lead to danger of electric shock.

**NOW AVAILABLE** with Polyterm® soft termination option for demanding environments & processes. Visit our website for full details.

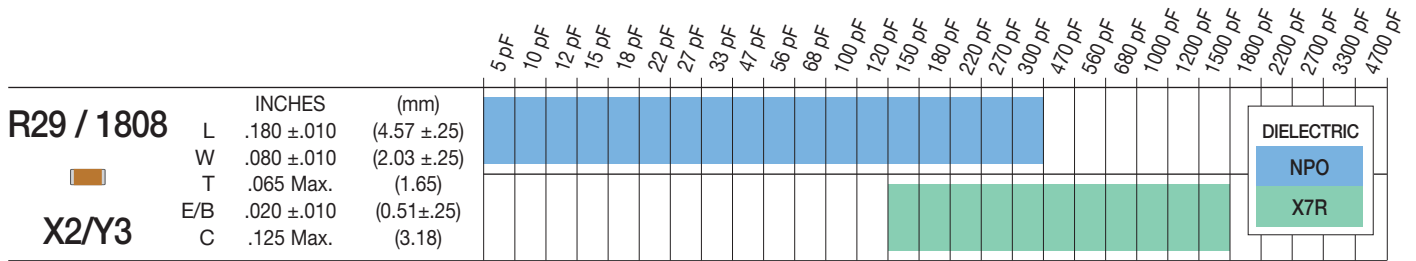
## HOW TO ORDER SAFETY CERTIFIED

302	R29	N	101	K	V	3	E - ***** -	SC						
<b>IMPULSE VOLTAGE</b> 302 = 3000V 502 = 5000V	<b>SIZE</b> See Size Chart	<b>DIELECTRIC</b> N = NPO W = X7R	<b>CAPACITANCE</b> 1st two digits are significant; third digit denotes number of zeros; 101 = 100 pF	<b>TOLERANCE</b> NPO: J = ±5% K = ±10% X7R: K = ±10% M = ±20%	<b>TERMINATION</b> V = Ni barrier w/ 100% Sn Plating	<b>MARKING</b> 3 = Special (J) 4 = No marking	<b>TAPE MODIFIER</b> <table border="1" style="font-size: small;"> <tr> <th>Code</th> <th>Tape</th> <th>Reel</th> </tr> <tr> <td>E</td> <td>Embossed</td> <td>7"</td> </tr> </table> Tape specifications conform to EIA RS481	Code	Tape	Reel	E	Embossed	7"	<b>TYPE</b> SC = Safety Certified
Code	Tape	Reel												
E	Embossed	7"												

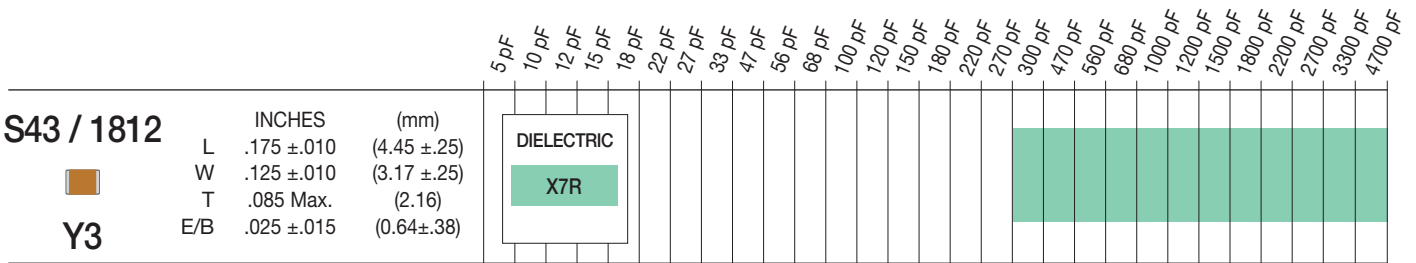
P/N written: 302R29N101KV3E-\*\*\*\*-SC



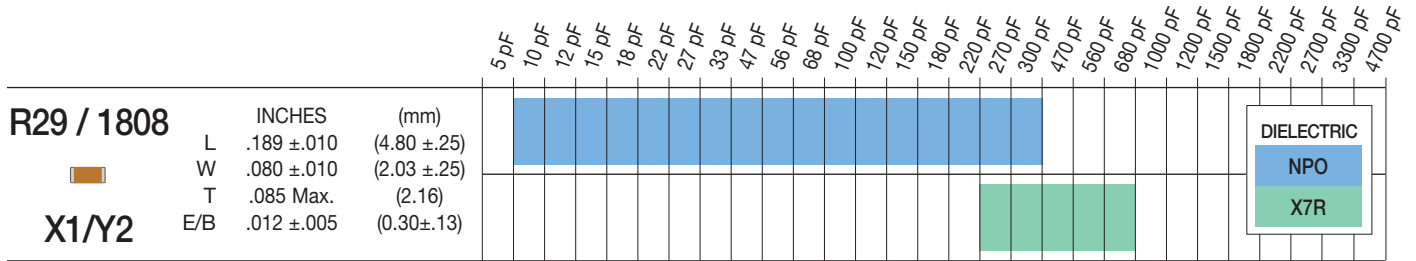
# SAFETY CERTIFIED CAPACITORS



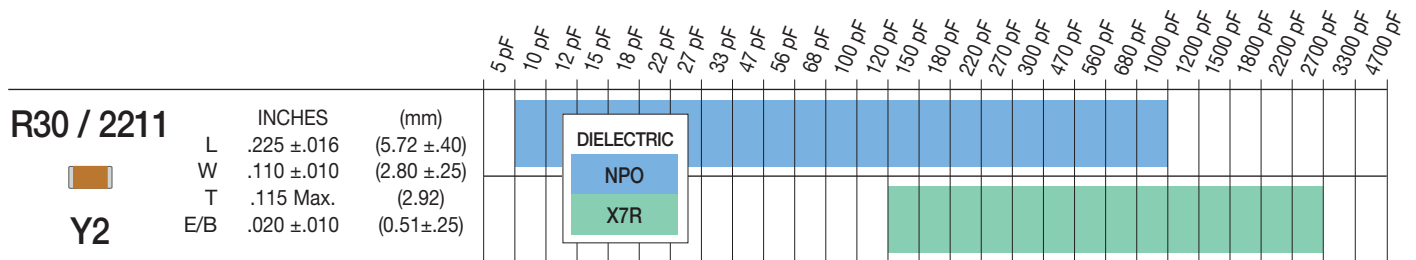
TUV Rheinland Certificate Numbers 2172792 & 2172793 Standards: EN132400:1994+A1, IEC 60384-14:1993+A1, EN 60950:1992+A1+A2+A3+A4+A11  
 UL File Number E212609 Standards:UL 1950, Third Edition • Semko Reference Numbers 0026092-1 & 0003222-1 Standards: EN 132400:1994+A2:1998, IEC 60384-14, Second Edition:1993+A1:1995, Robustness of Terminations (cl 4.3) tested according to IEC 60384-1 amendment 3 cl 4.34 & 4.35, Resistance to Soldering Heat (cl 4.4) tested according to IEC 60384-1 amendment 3 cl 4.14.2, Impulse test made with 2.5KV according to clause 6.4.2.1 in IEC 60950, Creepage distance between live parts of different polarity meets the requirements in IEC 60950



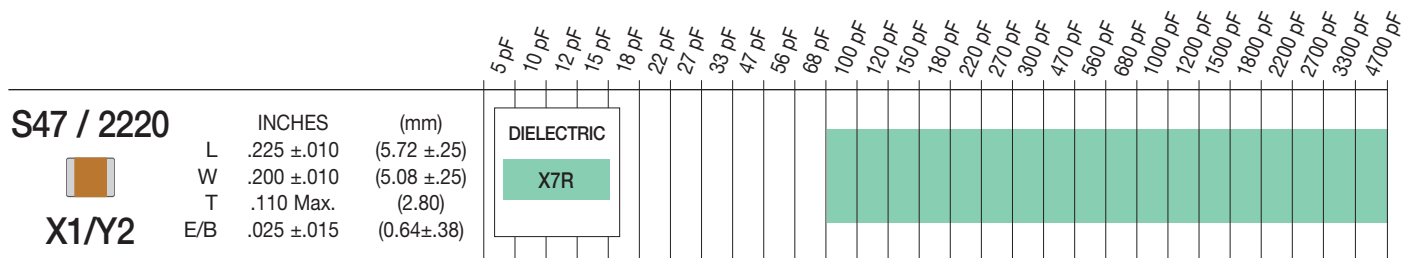
TUV Rheinland Certificate Number 2172792 Standards: EN132400:1994+A1, IEC 60384-14:1993+A1, EN 60950:1992+A1+A2+A3+A4+A11



TUV Rheinland Certificate Numbers T72041313 and T72041314 Standards: EN132400:1994+A2+A3+A4, EN60950-1:2001, IEC 384-14:1993+A1



TUV Rheinland Certificate Numbers 2279224, 2172779 & 72041313 Standards: EN132400:1994+A2, IEC 60384-14:1993+A1



TUV Rheinland Certificate Number 2272848 Standards: IEC 60384-14:1993+A, EN 132400:1994+A2 UL File E212609 & UL60950 3rd Edition

