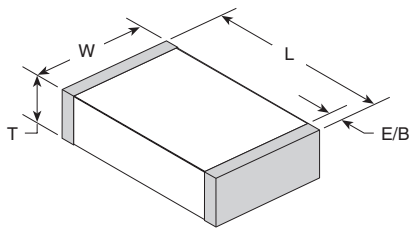
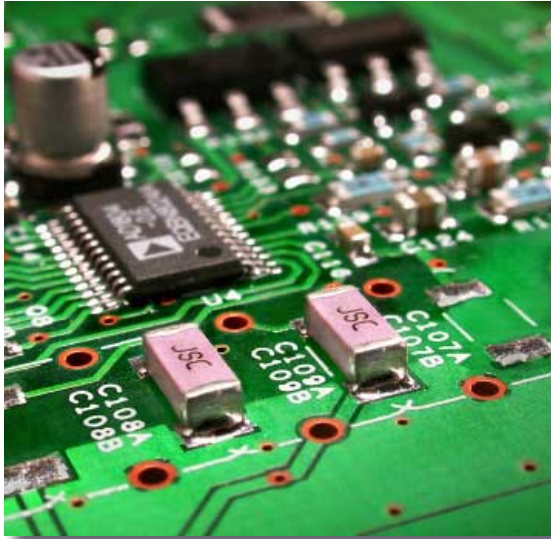


# SAFETY CERTIFIED CAPACITORS



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	RATED VAC	DWV VAC	IMPULSE VOLTAGE
Y2	250	1,500	5,000
Y3	250	1,500	N/A
X1	250	1,500	4,000
X2	250	1,500	2,500

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.

SAFETY RATING	VOLTAGE RATING		CASE SIZE	JOHANSON ORDERING P/N
	DC	WVAC		
X2/Y3	3,000	250	1808	302R29____V_E-****-SC
Y3	3,000	250	1812	302S43____V_E-****-SC
Y2	5,000	250	2211	502R30____V_E-****-SC
X1/Y2	5,000	250	2220	502S47____V3E-****-SC

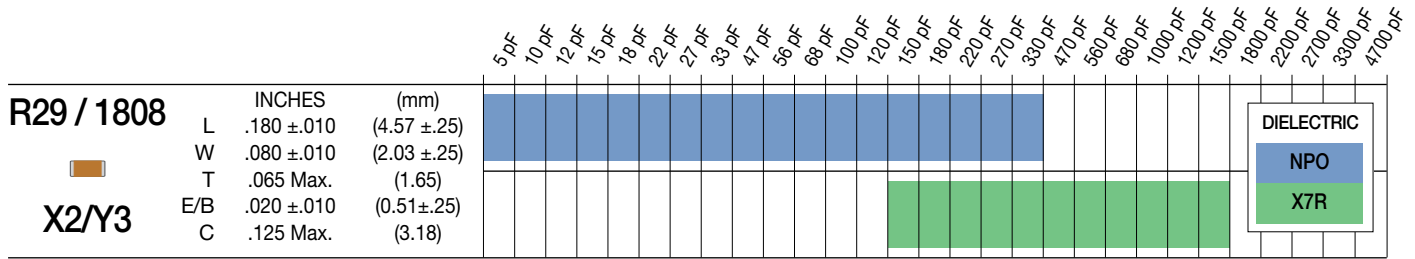
## HOW TO ORDER SAFETY CERTIFIED

<b>302</b>	<b>R29</b>	<b>N</b>	<b>101</b>	<b>K</b>	<b>V</b>	<b>3</b>	<b>E - ***** -</b>	<b>SC</b>
<b>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 (JSC) 4 = No marking	<b>TAPE MODIFIER</b> Code Tape Reel E Embossed 7" Tape specifications conform to EIA RS481	<b>TYPE</b> SC = Safety Certified

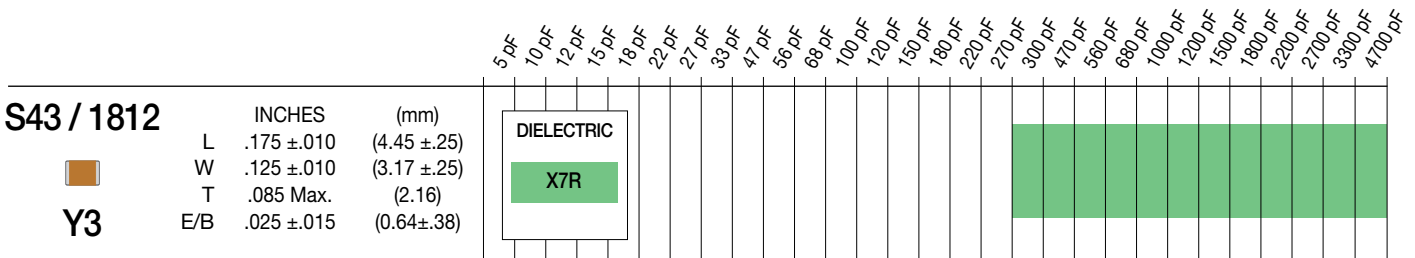
P/N written: 302R29N101KV3E-\*\*\*\*-SC



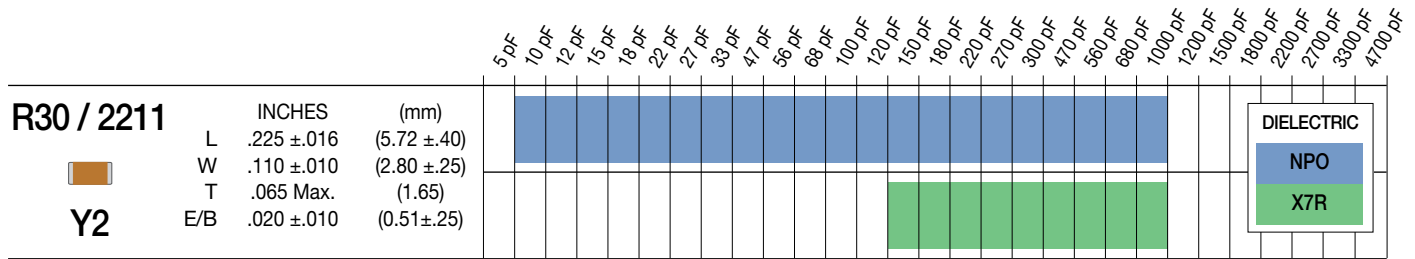
# SAFETY CERTIFIED CAPACITORS



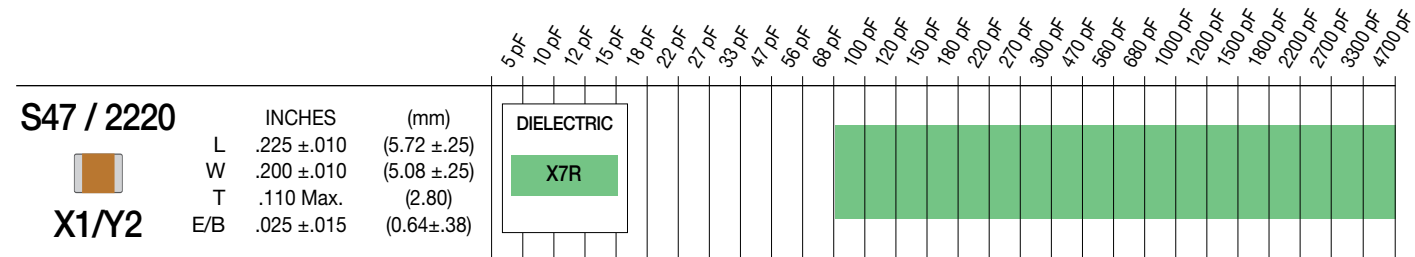
TUV Rheinland Certificate Numbers 2172792 & 2172793  
 Standards: EN132400:1994+A1, IEC 60384-14:1993+A1, EN 60950:1992+A1+A2+A3+A4+A11  
 UL File Number E212609 Standards:UL 1950, Third Edition  
 Semko Reference Numbers 0026092-1 & 0003222-1  
 Standards: EN 132400:1994+A2:1998, IEC 60384-14, Second 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 2279224 & 2172779  
 Standards: EN132400:1994+A2, IEC 60384-14:1993+A1



TUV Rheinland Certificate Number 2272848  
 Standards: IEC 60384-14:1993+A, EN 132400:1994+A2



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[NMC0402NPO220J50TRPF](#) [NMC0402X5R105K6.3TRPF](#) [NMC0402X5R224K6.3TRPF](#) [NMC0402X7R103J25TRPF](#)  
[NMC0402X7R153K16TRPF](#) [NMC0603NPO330G50TRPF](#) [NMC0603NPO331F50TRPF](#) [NMC0603X5R475M6.3TRPF](#)  
[NMC0805NPO220J100TRPF](#) [NMC0805NPO270J50TRPF](#) [NMC0805NPO681F50TRPF](#) [NMC0805NPO820J50TRPF](#)  
[NMC0805X7R224K25TRPF](#) [NMC1206X7R102K50TRPF](#) [NMC1210Y5V105Z50TRPLPF](#) [NMC-H0805X7R472K250TRPF](#) [NMC-](#)  
[L0402NPO7R0C50TRPF](#) [NMC-L0603NPO2R2B50TRPF](#) [NMC-Q0402NPO8R2D200TRPF](#) [C1206C101J1GAC](#) [C1608C0G2A221J](#)  
[C1608X7R1E334K](#) [C2012C0G2A472J](#) [2220J2K00562KXT](#) [KHC201E225M76N0T00](#) [1812J2K00332KXT](#) [CCR06CG153FSV](#)  
[CDR14BP471CJUR](#) [CDR31BX103AKWR](#) [CDR33BX683AKUS](#) [CGA2B2C0G1H010C](#) [CGA2B2C0G1H040C](#) [CGA2B2C0G1H050C](#)  
[CGA2B2C0G1H060D](#) [CGA2B2C0G1H070D](#) [CGA2B2C0G1H120J](#) [CGA2B2C0G1H151J](#) [CGA2B2C0G1H1R5C](#) [CGA2B2C0G1H2R2C](#)  
[CGA2B2C0G1H390J](#) [CGA2B2C0G1H391J](#) [CGA2B2C0G1H3R3C](#) [CGA2B2C0G1H680J](#) [CGA2B2C0G1H6R8D](#) [CGA2B2C0G1H820J](#)