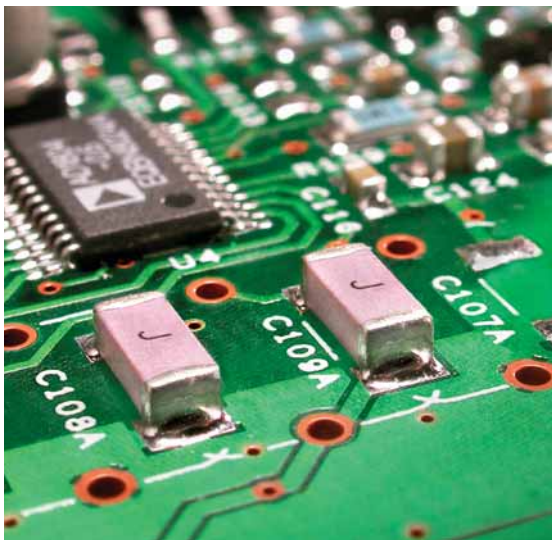
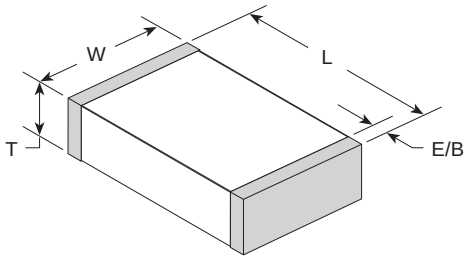
Safety Certified Capacitors



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 — **IMPULSE VOLTAGE**: 302 = 3000V, 502 = 5000V

R29 — **SIZE**: See Size Chart

N — **DIELECTRIC**: N = NPO, W = X7R

101 — **CAPACITANCE**: 1st two digits are significant; third digit denotes number of zeros; 101 = 100 pF

K — **TOLERANCE**: NPO: J = ± 5%, K = ± 10%; X7R: K = ± 10%, M = ± 20%

V — **TERMINATION**: V = Ni barrier w/ 100% Sn Plating

3 — **MARKING**: 3 = Special (J), 4 = No marking

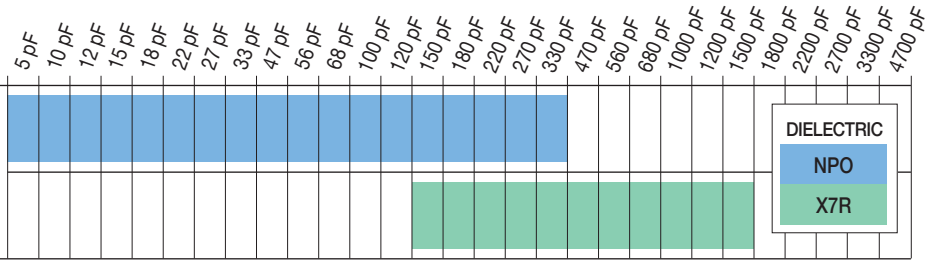
E — **TAPE MODIFIER**: Code E = Tape Embossed, Reel 7"; Tape specifications conform to EIA RS481

- **** -

SC — **TYPE**: SC = Safety Certified

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

Safety Certified Capacitors

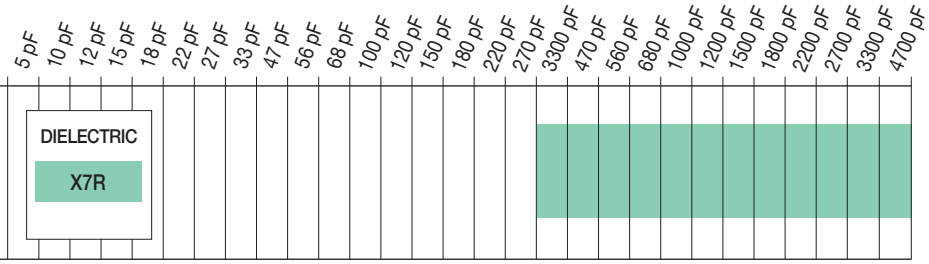


R29 / 1808

X2/Y3

	INCHES	(mm)
L	.180 ±.010	(4.57 ±.25)
W	.080 ±.010	(2.03 ±.25)
T	.080 Max.	(2.03)
E/B	.020 ±.010	(0.51±.25)
C	.125 Max.	(3.18)

STANDARDS: EN132400:1994+A1, IEC 60384-14:1993+A1, EN 60950:1992+A1+A2+A3+A4+A11 • UL 1950, Third Edition
CERTIFICATIONS: TUV Rheinland T72051130 & T72041946 • UL File E212609 • Semko 0026092-1 & 0003222-1

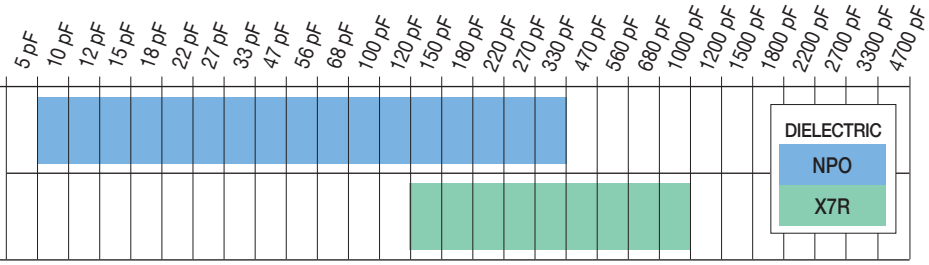


S43 / 1812

Y3

	INCHES	(mm)
L	.175 ±.010	(4.45 ±.25)
W	.125 ±.010	(3.17 ±.25)
T	.115 Max.	(2.92)
E/B	.025 ±.015	(0.64±.38)

STANDARDS: EN132400:1994+A1, IEC 60384-14:1993+A1, EN 60950:1992+A1+A2+A3+A4+A11
CERTIFICATIONS: TUV Rheinland T72041946

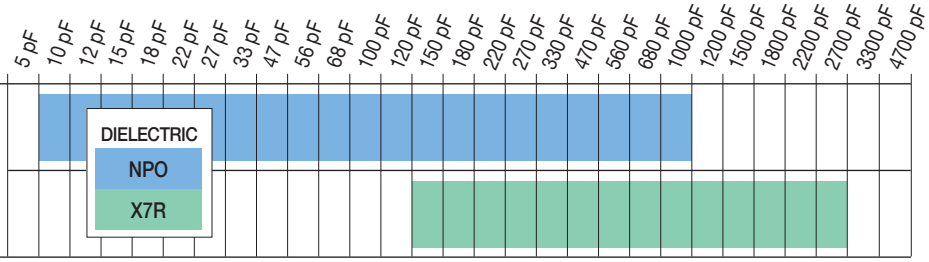


R29 / 1808

X1/Y2

	INCHES	(mm)
L	.189 ±.010	(4.80 ±.25)
W	.080 ±.010	(2.03 ±.25)
T	.085 Max.	(2.16)
E/B	.012 ±.005	(0.30±.13)

STANDARDS: EN132400:1994+A2, IEC 60384-14:1993+A1 / UL60950-01, First Edition
CERTIFICATIONS: TUV Rheinland T72041313 & T72041314 / UL File E212609-A1-UL-1

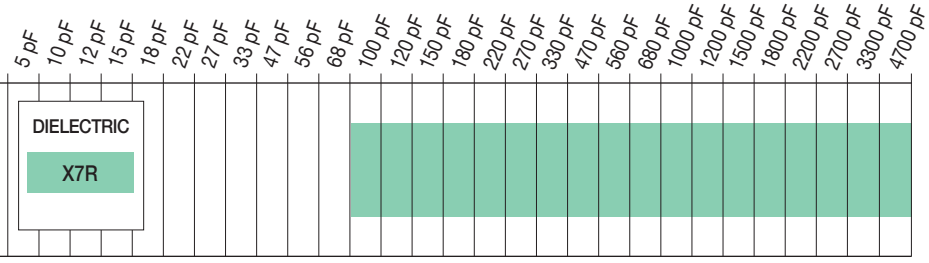


R30 / 2211

Y2

	INCHES	(mm)
L	.225 ±.016	(5.72 ±.40)
W	.110 ±.010	(2.80 ±.25)
T	.115 Max.	(2.92)
E/B	.020 ±.010	(0.51±.25)

STANDARDS: EN132400:1994+A2, IEC 60384-14:1993+A1 • UL60950-01, First Edition
CERTIFICATIONS: TUV Rheinland T72041313 & T72041314 • UL File: E212609-A1-UL-1



S47 / 2220

X1/Y2

	INCHES	(mm)
L	.225 ±.010	(5.72 ±.25)
W	.200 ±.010	(5.08 ±.25)
T	.150 Max.	(3.81)
E/B	.025 ±.015	(0.64±.38)

STANDARDS: EN132400:1994+A2, IEC 60384-14:1993+A • UL60950-01, 3rd Edition
CERTIFICATIONS: TUV Rheinland 2272848 • UL File: E212609-A1-UL-1