

# Standard Capacitors

## Nickel Barrier Terminations (50V and 100V)

**DESCRIPTION:**

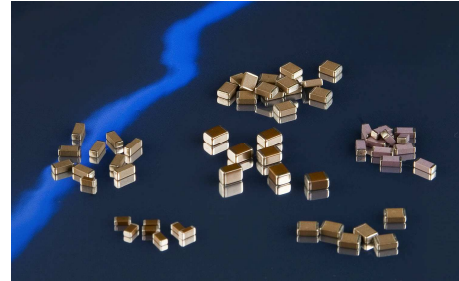
**RoHS compliant**

Case sizes: 0603 to 2220

Rated voltage: 50V and 100V

Dielectric Type I and II

Pure tin over nickel barrier termination (S code)



### I. Capacitance range

Dielectric	Case Size	Rated Voltage 50V	Rated Voltage 100V
NPO	R14 (0603)	100 to 332	2R0 to 271
	R15 (0805)	100 to 103	2R0 to 122
	R18 (1206)	102 to 103	2R0 to 562
	S41 (1210)	102 to 223	100 to 822
	S43 (1812)	102 to 473	-

Dielectric	Case Size	Rated Voltage 50V	Rated Voltage 100V
X7R	R14 (0603)	151 to 104	151 to 183
	R15 (0805)	471 to 334	471 to 104
	R18 (1206)	104 to 105	181 to 474
	S41 (1210)	104 to 475	103 to 225
	S43 (1812)	104 to 475	221 to 225
	S47 (2220)	474 to 106	474 to 475

**Note:** some capacitance values in these tables may not be proposed for small quantities. Please, contact us for confirmation.

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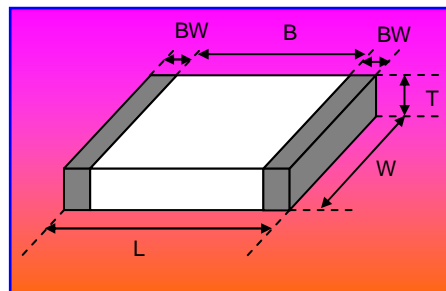
### II. Dielectrics

Designation	NP0	X7R
Temex Ceramics Series	N	X
EIA Class	Class I	Class II
Temperature range	-55°C to +125°C	-55°C to +125°C
Temperature coefficient	0 +/- 30ppm/°C	NA
Maximum $\Delta C/C$ over Temperature range without voltage applied	NA	$\pm 15\%$
Voltage proof	250% rated voltage	250% rated voltage
Insulation resistance	10G $\Omega$ or 500 $\Omega F$ * > 100 $\Omega F$ **	10G $\Omega$ or 500 $\Omega F$ * > 100 $\Omega F$ **
Aging	None	$\leq 2.5\%$ (per decade hour)

Note: NA = non applicable.

(\*): whichever is the less, for  $U_r > 10$  volts / (\*\*): for  $U_r \leq 10$  volts

### III. Dimensions



Sizes	L	W	T (max)	B (min)	BW (min)
R14 (0603)	1.60 $\pm$ 0.10	0.80 $\pm$ 0.10	0.90	0.4	0.15
R15 (0805)	2.00 $\pm$ 0.20	1.25 $\pm$ 0.20	1.40	0.7	0.2
R18 (1206)	3.20 $\pm$ 0.30	1.60 $\pm$ 0.20	1.80	1.5	0.3
S41 (1210)	3.20 $\pm$ 0.30	2.50 $\pm$ 0.20	2.60	1.6	0.3
S43 (1812)	4.60 $\pm$ 0.30	3.20 $\pm$ 0.30	3.00	2.5	0.3
S47 (2220)	5.70 $\pm$ 0.40	5.00 $\pm$ 0.40	3.00	3.5	0.3

Note: all dimensions in mm.

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### IV. Packaging

#### Tape and reel

Sizes	Thickness (mm)	Paper Tape (parts/reel)	Plastic Tape (parts/reel)
R14 (0603)	$T \leq 0.90$	4000	-
R15 (0805)	$T \leq 0.90$	4000	-
	$0.90 < T \leq 1.40$	-	3000
R18 (1206)	$T \leq 0.90$	4000	-
	$0.90 < T \leq 1.25$	-	3000
	$T > 1.25$	-	2000
S41 (1210)	$T \leq 1.25$	-	3000
	$T > 1.25$	-	2000
S43 (1812)	$T \leq 2.20$	-	1000
	$T > 2.20$	-	700
S47 (2220)	$T \leq 2.20$	-	1000
	$T > 2.20$	-	700

Diameter of the reel: 180mm.

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### V. How to order

500	R15	X	104	K	S	E
<b>Rated Voltage</b>	<b>Family</b>	<b>Dielectric</b>	<b>Capacitance</b>	<b>Tolerance</b>	<b>Termination</b>	<b>Packaging</b>
<p>1st two digits are significant; third digit denotes number of zeros</p> <p>Exemples: 500=50V 101=100V</p>	<p>R14 R15 R18 S41 S43 S47</p>	<p>N = NP0 X = X7R</p>	<p><b>C&lt;10pF</b> 'R' is the decimal point Example: 4R7=4.7pF</p> <p><b>C≥10pF</b> 1st two digits are significant; third digit denotes number of zeros Exemples: 101=100pF 472= 4.7nF 683 = 68nF 104 = 0.1μF</p>	<p><u>Class1 diel.</u> F (±1%) G (±2%) J (±5%)</p> <p><u>Class2 diel.</u> K (±10%) M (±20%)</p>	<p>S (Nickel barrier covered by 100% Matte tin plating)</p>	<p>E (tape &amp; reel)</p>