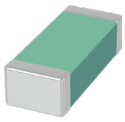
SMD Extended Range

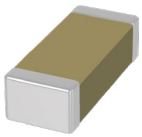
6.3V - 2000V NPO-X7R-X5R

SRT MICROCÉRAMIQUE
MLCC CAPACITORS

FEATURES

- **Defense applications**
- **Extended range**
- **Equivalence to concurrent design**
- **Low ESR, ESL**





RoHS compliant

Pb

TEMPERATURE COEFFICIENT :
NP0 : ± 30ppm
X7R, X5R : ± 15% with 0Vdc applied

AGING RATE :
X7R,X5R : 2% per decade

Dissipation Factor :
NP0 : ≤ 1.10^{-3} at 1Vrms and 1MHz for values ≤ 1000pF
≤ 1.10^{-3} at 1Vrms and 1KHz for values > 1000pF
X7R : ≤ 0.025 at 1kHz

X5R : ≤ 0.10 at 1kHz

INSULATION RESISTANCE (IR) :
25°C/Un 10^5 MOhm or 1000 Ohm-Farad whichever is less
125°C/Un 10^4 MOhm or 100 Ohm-Farad whichever is less

DIELECTRIC STRENGTH TEST :
2.5Un U≤200V I U+250V 200<U≤500 I 1.5U 500<U<1000 I 1.2U U≥1000
for 5s with 50mA max charging current

ELECTRICAL PARAMETERS

ELECTRICAL CHARACTERISTICS :
at + 25°C unless otherwise specified

OPERATING TEMPERATURE :
NPO, X7R : - 55°C, + 125°C
X5R : - 55°C, +85°C

QUICK REFERENCE DATA (MAX VALUE)

	0201			0402			0603			0805			1206			1210		
	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R
6,3V	*1.0 nF*	*33 nF*	*2.2 µF*	*2.2 nF*	*1.0 µF*	*10 µF*	*27 nF*	*4.7 µF*	*47 µF*	*47 nF*	*10 µF*	*100 µF*	*220 nF*	*22 µF*	**100 µF**	*220 nF*	*47 µF*	*220 µF*
10V	*1.0 nF*	*33 nF*	*1.0 µF*	*2.2 nF*	*470 nF*	**10 µF**	*27 nF*	*4.7 µF*	*22 µF*	*47 nF*	*10 µF*	*47 µF*	*220 nF*	*22 µF*	**100 µF**	*220 nF*	*47 µF*	*100 µF*
16V	*1.0 nF*	*33 nF*	*1.0 µF*	*2.2 nF*	**330 nF**	**4.7 µF**	*27 nF*	**4.7 µF**	**22 µF**	*47 nF*	*10 µF*	**47 µF**	*220 nF*	*22 µF*	**100 µF**	*220 nF*	*22 µF*	*100 µF*
25V	*1.0 nF*	**33 nF**		*2.2 nF*	**330 nF**	*1.0 µF*	*27 nF*	**4.7 µF**	*10 µF*	*47 nF*	*4.7 µF*	*22 µF*	*220 nF*	*10 µF*	**47 µF**	*220 nF*	*22 µF*	*47 µF*
35V	*220 pF*	*1.5 nF*		*1.5 nF*	**330 nF**	**1.0 µF**	*27 nF*	**2.2 µF**	**4.7 µF**	*47 nF*	*4.7 µF*	**22 µF**	*220 nF*	*10 µF*	**22 µF**	*150 nF*	*22 µF*	*22 µF*
50V	*220 pF*	*1.5 nF*		*1.5 nF*	**330 nF**	**1.0 µF**	*10 nF*	*1.0 µF*		*47 nF*	*4.7 µF*	**10 µF**	*220 nF*	*10 µF*	**10 µF**	*150 nF*	*22 µF*	*10 µF*
63V				*1.0 nF*	**100 nF**		*10 nF*	**330 nF**		**47 nF**	*1.0 µF*	**4.7 µF**	*100 nF*	*2.2 µF*	**3.3 µF**	*100 nF*	*10 µF*	**4.7 µF**
100V				*1.0 nF*	**100 nF**		*10 nF*	**330 nF**		**47 nF**	*1.0 µF*	**1.0 µF**	*100 nF*	*2.2 µF*		*100 nF*	*10 µF*	**4.7 µF**
150V					**12 nF**		*2.2 nF*	**47 nF**		**47 nF**	*470 nF*		*22 nF*	**1.0 µF**		*47 nF*	*1.0 µF*	
200V					**10 nF**		*2.2 nF*	*39 nF*		**47 nF**	*470 nF*		*22 nF*	**1.0 µF**		*47 nF*	*1.0 µF*	
250V								*27 nF*		*10 nF*	*82 nF*		*22 nF*	**470 nF**		*47 nF*	*680 nF*	
500V										**8.2 nF**	*33 nF*		*10 nF*	*82 nF*		*33 nF*	*180 nF*	
630V										*2.7 nF*	*33 nF*		*10 nF*	*56 nF*			*120 nF*	
1000V										**2.2 nF**	*5.6 nF*		*3.3 nF*	**47 nF**			*68 nF*	
1500V														**18 nF**			*39 nF*	
2000V														*4.7 nF*			**10 nF**	

	1808			1812			1825			2220			2225		
	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R	NP0	X7R	X5R
6,3V	*22 nF*	*470 nF*		*220 nF*	*22 µF*	*100 µF*	*100 nF*	*10 µF*		*470 nF*	*47 µF*	*100 µF*	*100 nF*	*10 µF*	
10V	*22 nF*	*470 nF*		*220 nF*	*22 µF*	*100 µF*	*100 nF*	*10 µF*		*470 nF*	*47 µF*	*100 µF*	*100 nF*	*10 µF*	
16V	*22 nF*	*470 nF*		*220 nF*	*22 µF*	**100 µF**	*100 nF*	*10 µF*		*470 nF*	*47 µF*	**100 µF**	*100 nF*	*10 µF*	
25V	*22 nF*	*470 nF*		*220 nF*	*22 µF*	**100 µF**	*100 nF*	*10 µF*		*470 nF*	*47 µF*	**100 µF**	*100 nF*	*10 µF*	
35V	*22 nF*	*470 nF*		*220 nF*	*6.8 µF*	**47 µF**	*100 nF*	*10 µF*		*470 nF*	*47 µF*	*47 µF*	*100 nF*	*10 µF*	
50V	*22 nF*	*470 nF*		*220 nF*	*6.8 µF*	**47 µF**	*100 nF*	*10 µF*		*470 nF*	*47 µF*	*47 µF*	*100 nF*	*10 µF*	
63V	*22 nF*	*470 nF*		*150 nF*	**6.8 µF**	**10 µF**	*100 nF*	*10 µF*		*330 nF*	*22 µF*	*22 µF*	*100 nF*	*10 µF*	
100V	*22 nF*	*470 nF*		*150 nF*	**6.8 µF**	**10 µF**	*100 nF*	*10 µF*		*330 nF*	*22 µF*	*22 µF*	*100 nF*	*10 µF*	
150V	*22 nF*	*470 nF*		*100 nF*	*1.0 µF*		*82 nF*	*2.2 µF*		*150 nF*	*2.2 µF*	**10 µF**	*100 nF*	*2.7 µF*	
200V	*22 nF*	*470 nF*		*100 nF*	*1.0 µF*		*82 nF*	*2.2 µF*		*150 nF*	*2.2 µF*	**4.7 µF**	*100 nF*	*2.7 µF*	
250V	*22 nF*	*470 nF*		*100 nF*	*1.0 µF*		*82 nF*	*1.8 µF*		*150 nF*	*2.2 µF*	*2.2 µF*	*100 nF*	*2.7 µF*	
500V	*18 nF*	*220 nF*		*47 nF*	*470 nF*		*68 nF*	*820 nF*		*150 nF*	*1.0 µF*		**100 nF**	*1.0 µF*	
630V	*15 nF*	*120 nF*		*47 nF*	*270 nF*		*56 nF*	*560 nF*		*150 nF*	*1.0 µF*		*68 nF*	*820 nF*	
1000V	*6.8 nF*	*68 nF*		*15 nF*	*150 nF*		*33 nF*	*330 nF*		*100 nF*	*470 nF*		*47 nF*	*470 nF*	
1500V	**3.3 nF**	*15 nF*		*8.2 nF*	**47 nF**		*18 nF*	*82 nF*		*18 nF*	*100 nF*		*27 nF*	*120 nF*	
2000V	**3.3 nF**	*10 nF*		*3.9 nF*	**47 nF**		*10 nF*	*56 nF*		*12 nF*	*100 nF*		*15 nF*	*82 nF*	

Highest value in Extended Range / *Highest Value in Standard Range for this value and lower refer to SMD Type I, SMD Type 2 and High Capacitance DataSheets*

This document is subject to change without notice.

ORDERING INFORMATION

1812	SE	476	M	A	X	B	-
SIZE	**DIELECTRIC**	**CAPACITANCE**	**TOLERANCE**	**VOLTAGE**	**TERMINATION**	**PACKAGING**	**SPECIAL PARAMETERS**
0201 0402 0603 0805 1206 1210 1808 1812 1825 2220 2225	AE = NPO YE = X7R SE = X5R	Expressed in picofarads (pF). The first two digits are significant, the third digit gives the number of noughts. Example : 102 = 1 000pF For special values R is used as decimal separator Example 12R7 = 12.7pF 1340R0 = 1340pF	F = ± 1% G = ± 2% J = ± 5% K = ± 10% M = ± 20%	R = 6.3V Q = 10V J = 16V X = 25V Z = 35V A = 50V U = 63V B = 100V C = 200V P = 250V E = 500V F = 630V G = 1000V O = 1500V H = 2000V	X = Nickel Tin W = Nickel Gold H = Dipped SnPb	B = Reel	- Dxx = Reliability spec Exx = Sorting spec

DIMENSIONS IN MILLIMETERS

		0201	0402	0603	0805	1206	1210	1812	2220
Length (L)		0.60 ± 0.03	1.00 ± 0.1	1.60 ± 0.2	2.00 ± 0.2	3.20 ± 0.2	3.20 ± 0.2	4.60 ± 0.3	5.60 ± 0.4
Width (W)		0.30 ± 0.03	0.50 ± 0.1	0.80 ± 0.2	1.25 ± 0.2	1.60 ± 0.2	2.50 ± 0.2	3.20 ± 0.2	5.10 ± 0.4
Thickness max (T)		0.35	0.60	0.92	1.40	1.70	2.50	3.30	4.00
Termination (P)	Min	0.10	0.10	0.25	0.25	0.25	0.25	0.25	0.25
	Max	0.20	0.40	0.40	0.70	0.70	0.80	0.80	0.80