

RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

NP0 (C0G) Dielectric



ELECTRICAL CHARACTERISTICS

Capacitance Range:

0.5 pF to 0.12 μ F

Temperature Coefficient of Capacitance:

0 \pm 30ppm/ $^{\circ}$ C

Operating Temperature Range:

-55 $^{\circ}$ C to +125 $^{\circ}$ C

Dissipation Factor:

0.1% (max.) for C \geq 30 pF @ 25 $^{\circ}$ C @ 1 MHz
0.25% (max.) for C < 30 pF @ 25 $^{\circ}$ C @ 1 MHz

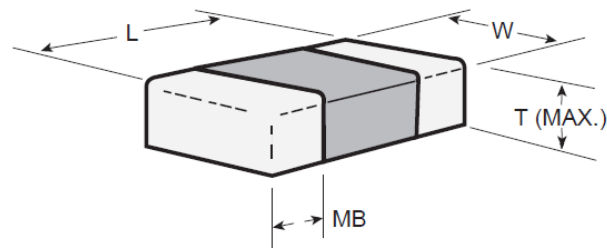
Insulation Resistance:

@ +25 $^{\circ}$ C and rated Vdc: 100,000 megohms (min.)
or 1000 ohm-farads (min.), whichever is less.

Aging:

None

DIMENSION DRAWING



Dielectric Withstanding Voltage:

250% WVDC for WVDC < 200V
150% WVDC for 200V < WVDC \leq 500V
120% WVDC for WVDC > 500V

Applied for 5 \pm 1 sec.

Note: Unless otherwise specified all test data is at +25 $^{\circ}$ C.

HOW TO ORDER

0603 **NP0** **1R** **0** **C** **T** **2** **A** **T**

Size **Temperature Characteristic** **Capacitance Code** **Indicates number of zeros following digits of capacitance in picofarads R=Decimal Point**

First 2 Significant Digits for Capacity

CAPACITANCE TOLERANCE					
Code	B*	C	F	G	J
Tol.	\pm 0.1 pF	\pm 0.25 pF	\pm 1%	\pm 2%	\pm 5%
	pF (Values < 10 pF)		% (Values \geq 10 pF)		

*Tighter tolerances available

Termination Code

T = Tin plated over Nickel Barrier (Standard), RoHS Compliant
W = Tin/Lead, Solder Plated over Nickel Barrier**

**Consult KYOCERA AVX for availability

Marking

A = No mark
S = EIA

Code - (Special Order)

Packaging

T=7" Reel

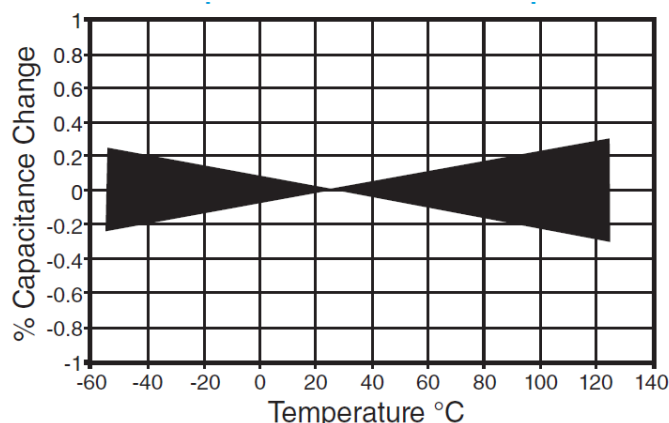


WVDC Code	A	7	1	2	3	4	5	6	8	9
WVDC	10	16	25	50	100*	200*	500*	1000*	2000*	5000*

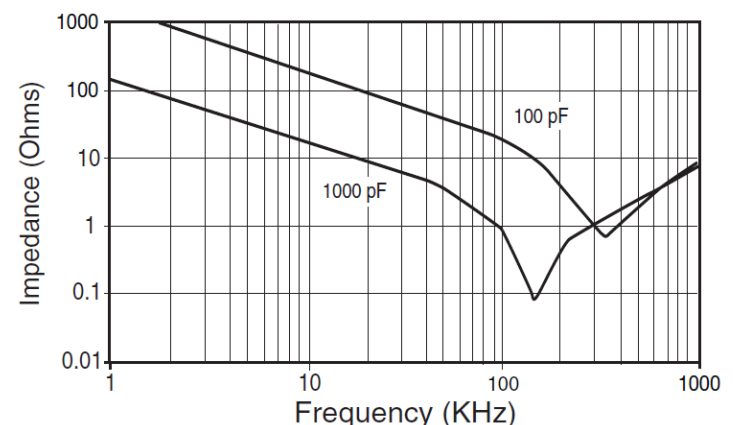
*Special Order - Consult Factory

ELECTRICAL PERFORMANCE

NP0 Temperature Coefficient of Capacitance



NP0 Impedance vs. Frequency



RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

NP0 (C0G) Dielectric



SELECTION GUIDE

Case Size	0402	0504	0603	0805	1206	1210	1812	2225
Length (L)	.040 (1.02)	.050 (1.27)	.063 (1.60)	.079 (2.00)	.125 (3.18)	.125 (3.18)	.180 (4.57)	.220 (5.59)
Width (W)	.020 (0.51)	.040 (1.02)	.031 (0.80)	.049 (1.25)	.063 (1.60)	.100 (2.54)	.125 (3.18)	.250 (6.35)
Tol. L & W	±.004 (0.10)	±.006 (.152)	±.005 (0.12)	±.008 (0.2)	±.008 (0.2)	±.008 (0.2)	±.012 (.305)	±.015 (0.38)
T Max.	.024 (0.61)	.044 (1.12)	.035 (0.89)	.054 (1.37)	.064 (1.63)	.070 (1.78)	.100 (2.54)	.150 (3.81)
Term. (MB) Min. Max.	.004 (.10)	.005 (.12)	.004 (.10)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)
	.014 (.36)	.015 (.38)	.015 (.38)	.030 (.76)	.030 (.76)	.030 (.76)	.030 (.76)	.030 (.76)
Min. Cap.	0R5	0R5	0R5	0R5	0R5	3R0	100	270
Max. Cap. (code) & WVDC								
10V								
16V	331	182	152	103	223	273	393	124
25V	331	122	102	103	223	223	393	124
50V	471	102	102	103	104	223	333	124
100V	181	561	102	392	562	183	273	683
200V	101	391	561	182	392	103	183	563
500V				821	182	472	103	273
1000V				471	102	222	472	153
2000V								392
5000V								

Dimensions in inches (mm)
Higher voltages available upon request.

STANDARD EIA CAPACITANCE VALUES REFERENCE CHART

Note: Upper capacitance value limit for NP0 is .12 µF

Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. µF	Cap. Code	Cap. µF	Cap. Code	Cap. µF
0R5	0.5	8R2	8.2	820	82	821	820	822	8200	563	.056	474	.47	335	3.3
1R0	1.0	100	10	101	100	102	1000	Cap. Code	Cap. µF	683	.068	564	.56	395	3.9
1R2	1.2	120	12	121	120	122	1200			823	.082	684	.68	475	4.7
1R5	1.5	150	15	151	150	152	1500	103	.010	104	.10	824	.82	565	5.6
1R8	1.8	180	18	181	180	182	1800	123	.012	124	.12	105	1.0	685	6.8
2R2	2.2	220	22	221	220	222	2200	153	.015	154	.15	125	1.2	825	8.2
2R7	2.7	270	27	271	270	272	2700	183	.018	184	.18	155	1.5	106	10.0
3R3	3.3	330	33	331	330	332	3300	223	.022	224	.22	185	1.8	126	12.0
3R9	3.9	390	39	391	390	392	3900	273	.027	274	.27	225	2.2	156	15.0
4R7	4.7	470	47	471	470	472	4700	333	.033	334	.33	275	2.7		
5R6	5.6	560	56	561	560	562	5600	393	.039	394	.39				
6R8	6.8	680	68	681	680	682	6800	473	.047						

RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

X7R Dielectric



ELECTRICAL CHARACTERISTICS

Capacitance Range:

120 pF to 10 μ F

Temperature Coefficient of Capacitance:

$\pm 15\%$ with 0 Vdc applied

Operating Temperature Range:

-55°C to +125°C

Dissipation Factor:

2.5% (max.) @ +25°C, @ 1 MHz \leq 1000 pF;
@ 1 KHz > 1000 pF. [Click for DF Exceptions for X7R.](#)

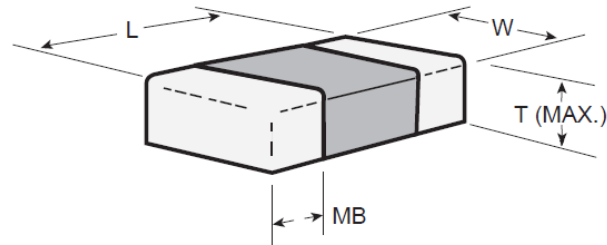
Insulation Resistance:

@ +25°C and rated Vdc: 10,000 megohms (min.)
or 500 ohm-farads (min.), whichever is less.

Aging:

3% (max.) per decade hr.

DIMENSION DRAWING



Dielectric Withstanding Voltage:

250% WVDC for WVDC < 200V
150% WVDC for 200V < WVDC \leq 500V
120% WVDC for WVDC > 500V

Applied for 5 \pm 1 sec.

Note: Unless otherwise specified all test data is at +25°C.

HOW TO ORDER

0805	X7R	10	2	K	T	2	A	T
Size	Temperature Characteristic	Capacitance Code First 2 Significant Digits for Capacity	Indicates number of zeros following digits of capacitance in picofarads R=Decimal Point		Termination Code T = Tin plated over Nickel Barrier (Standard), RoHS Compliant W = Tin/Lead, Solder Plated over Nickel Barrier**	Marking A = No mark S = EIA Code - (Special Order)		Packaging T=7" Reel

CAPACITANCE TOLERANCE		
Code	J	K
Tol.	$\pm 5\%$	$\pm 10\%$

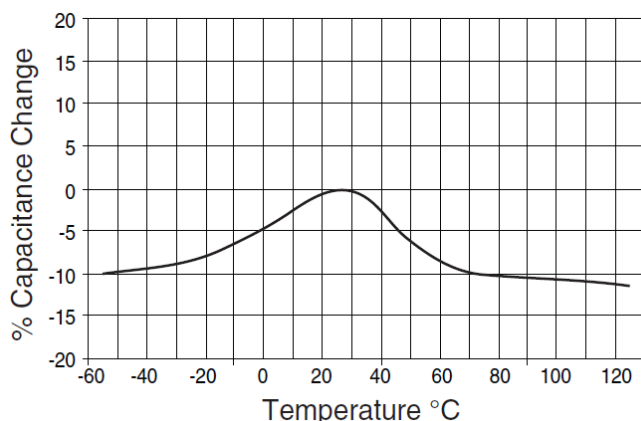
WVDC Code	C	A	7	1	2	3	4	5	6	8	9
WVDC	6.3*	10	16	25	50	100*	200*	500*	1000*	2000*	5000*

*Special Order - Consult Factory

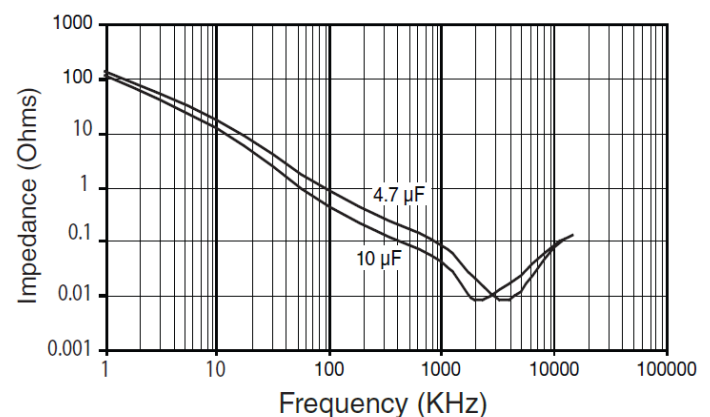


ELECTRICAL PERFORMANCE

X7R Temperature Coefficient of Capacitance



X7R Impedance vs. Frequency



RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

X7R Dielectric



SELECTION GUIDE

Case Size	0402	0504	0603	0805	1206	1210	1812	2225
Length (L)	.040 (1.02)	.050 (1.27)	.063 (1.60)	.079 (2.00)	.125 (3.18)	.125 (3.18)	.180 (4.57)	.220 (5.59)
Width (W)	.020 (0.51)	.040 (1.02)	.031 (0.80)	.049 (1.25)	.063 (1.60)	.100 (2.54)	.125 (3.18)	.250 (6.35)
Tol. L & W	±.004 (0.10)	±.006 (.152)	±.005 (0.12)	±.008 (0.2)	±.008 (0.2)	±.008 (0.2)	±.012 (.305)	±.015 (0.38)
T Max.	.024 (0.61)	.044 (1.12)	.035 (0.89)	.059 (1.50)	.071 (1.80)	.110 (2.79)	.118 (3.00)	.150 (3.81)
Term. (MB) Min. Max.	.004 (.10)	.005 (.12)	.004 (.10)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)
	.014 (.36)	.015 (.38)	.015 (.38)	.030 (.76)	.030 (.76)	.030 (.76)	.030 (.76)	.030 (.76)
Min. Cap.	121	121	121	121	121	121	151	471
Max. Cap. (code) & WVDC								
6.3V	105							
10V			225	105	106			
16V	104	393	105	105	685	226	106	106
25V	273	333	225	105	475	106	106	106
50V	103	273	104	334	334	105	225	225
100V	472	153	104	104	154	105	225	225
200V	222	103	103	333	104	184	474	105
500V				123	223	563	104	334
1000V				272	682	153	273	104
2000V					102	222	472	153
5000V								

Dimensions in inches (mm)
Higher voltages available upon request.

STANDARD EIA CAPACITANCE VALUES REFERENCE CHART

Note: Upper capacitance value limit for X7R is 10.0 µF

Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. µF	Cap. Code	Cap. µF	Cap. Code	Cap. µF
0R5	0.5	8R2	8.2	820	82	821	820	822	8200	563	.056	474	.47	335	3.3
1R0	1.0	100	10	101	100	102	1000	Cap. Code	Cap. µF	683	.068	564	.56	395	3.9
1R2	1.2	120	12	121	120	122	1200			823	.082	684	.68	475	4.7
1R5	1.5	150	15	151	150	152	1500	103	.010	104	.10	824	.82	565	5.6
1R8	1.8	180	18	181	180	182	1800	123	.012	124	.12	105	1.0	685	6.8
2R2	2.2	220	22	221	220	222	2200	153	.015	154	.15	125	1.2	825	8.2
2R7	2.7	270	27	271	270	272	2700	183	.018	184	.18	155	1.5	106	10.0
3R3	3.3	330	33	331	330	332	3300	223	.022	224	.22	185	1.8	126	12.0
3R9	3.9	390	39	391	390	392	3900	273	.027	274	.27	225	2.2	156	15.0
4R7	4.7	470	47	471	470	472	4700	333	.033	334	.33	275	2.7		
5R6	5.6	560	56	561	560	562	5600	393	.039	394	.39				
6R8	6.8	680	68	681	680	682	6800	473	.047						

RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

X5R Dielectric



ELECTRICAL CHARACTERISTICS

Capacitance Range:

0.1 μF to 33 μF

Temperature Coefficient of Capacitance:

$\pm 15\%$ with 0 Vdc applied

Operating Temperature Range:

-55°C to $+125^\circ\text{C}$

Dissipation Factor:

5% (max.) @ $+25^\circ\text{C}$, @ 1 KHz @ 1.0 \pm 0.2 VRMS

[Click for DF Exceptions for X5R.](#)

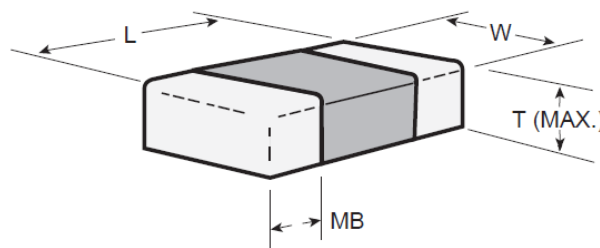
Insulation Resistance:

@ $+25^\circ\text{C}$ and rated Vdc: 10,000 megohms (min.) or 500 ohm-farads (min.), whichever is less.

Aging:

3% (max.) per decade hr.

DIMENSION DRAWING



Dielectric Withstanding Voltage:

250% WVDC for WVDC < 200V

150% WVDC for $200\text{V} < \text{WVDC} \leq 500\text{V}$

120% WVDC for WVDC > 500V

Applied for 5 ± 1 sec.

Note: Unless otherwise specified all test data is at $+25^\circ\text{C}$.

HOW TO ORDER

0805	X5R	10	6	K	T	A	A	T
Size	Temperature Characteristic	Capacitance Code First 2 Significant Digits for Capacity	Indicates number of zeros following digits of capacitance in picofarads R=Decimal Point	Termination Code T = Tin plated over Nickel Barrier (Standard), RoHS Compliant W = Tin/Lead, Solder Plated over Nickel Barrier**	Marking A = No mark S = EIA Code - (Special Order)	Packaging T=7" Reel		

CAPACITANCE TOLERANCE		
Code	K	M
Tol.	$\pm 10\%$	$\pm 20\%$

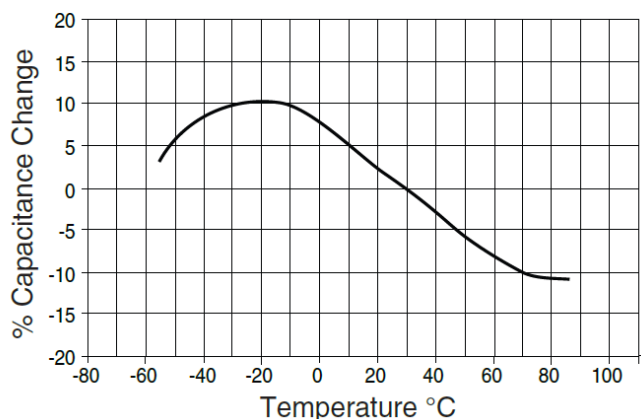
WVDC Code	C	A	7	1	2	3	4	5	6	8	9
WVDC	6.3*	10	16	25	50	100*	200*	500*	1000*	2000*	5000*

*Special Order - Consult Factory

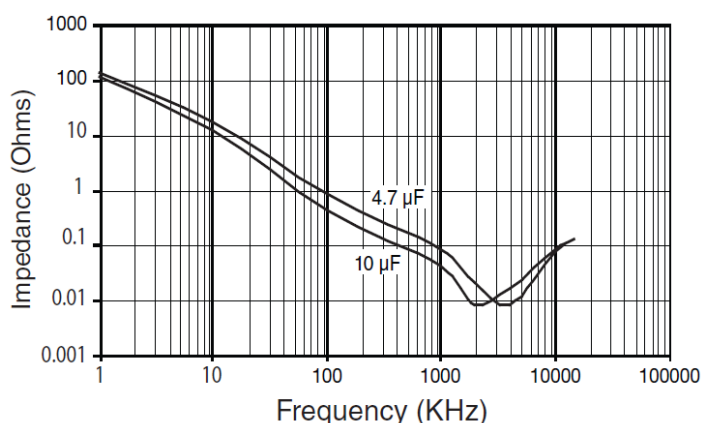


ELECTRICAL PERFORMANCE

X5R Temperature Coefficient of Capacitance



X5R Impedance vs. Frequency



RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

X5R Dielectric



SELECTION GUIDE

Case Size	0402	0603	0805	1206	1210	1812
Length (L)	.040 (1.02)	.063 (1.60)	.079 (2.00)	.125 (3.18)	.125 (3.18)	.180 (4.57)
Width (W)	.020 (0.51)	.031 (0.80)	.049 (1.25)	.063 (1.60)	.100 (2.54)	.125 (3.18)
Tol. L & W	±.004 (0.10)	±.005 (0.12)	±.008 (0.2)	±.008 (0.2)	±.008 (0.2)	±.012 (.305)
T Max.	.024 (0.61)	.035 (0.89)	.059 (1.50)	.072 (1.83)	.110 (2.79)	.118 (3.00)
Term. (MB) Min. Max.	.004 (.10)	.004 (.10)	.010 (.25)	.010 (.25)	.010 (.25)	.010 (.25)
	.014 (.36)	.015 (.38)	.030 (.76)	.030 (.76)	.030 (.76)	.030 (.76)
Min. Cap.	104	474	224	105	335	106
Max. Cap. (code) & WVDC						
6.3V				107	107	
10V	105	225	106	106	226	336
16V	104	105	106	106	106	336
25V		564	225	476	106	106
50V			224			

Dimensions in inches (mm)
Higher voltages available upon request.

STANDARD EIA CAPACITANCE VALUES REFERENCE CHART

Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. μF	Cap. Code	Cap. μF	Cap. Code	Cap. μF
0R5	0.5	8R2	8.2	820	82	821	820	822	8200	563	.056	564	.56	565	5.6
1R0	1.0	100	10	101	100	102	1000	Cap. Code	Cap. μF	683	.068	684	.68	685	6.8
1R2	1.2	120	12	121	120	122	1200			823	.082	824	.82	825	8.2
1R5	1.5	150	15	151	150	152	1500	103	.010	104	.10	105	1.0	106	10.0
1R8	1.8	180	18	181	180	182	1800	123	.012	124	.12	125	1.2	126	12.0
2R2	2.2	220	22	221	220	222	2200	153	.015	154	.15	155	1.5	156	15.0
2R7	2.7	270	27	271	270	272	2700	183	.018	184	.18	185	1.8	186	18.0
3R3	3.3	330	33	331	330	332	3300	223	.022	224	.22	225	2.2	226	22.0
3R9	3.9	390	39	391	390	392	3900	273	.027	274	.27	275	2.7	276	27.0
4R7	4.7	470	47	471	470	472	4700	333	.033	334	.33	335	3.3	336	33.0
5R6	5.6	560	56	561	560	562	5600	393	.039	394	.39	395	3.9		
6R8	6.8	680	68	681	680	682	6800	473	.047	474	.47	475	4.7		

RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

Z5U/Y5V Dielectric



ELECTRICAL CHARACTERISTICS

Capacitance Range:

0.1 μ F to 22 μ F

Temperature Coefficient of Capacitance:

Z5U: +22%, -56%

Y5V: +22%, -82%

Operating Temperature Range:

Z5U: +10°C to +85°C

Y5V: -30°C to +85°C

Dissipation Factor:

3.5% (max.) @ +25°C, @ 1 KHz

[Click for DF Exceptions for Y5V.](#)

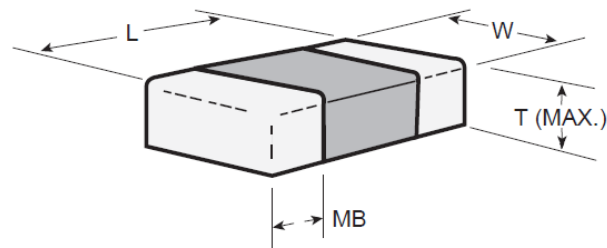
Insulation Resistance:

@ +25°C and rated Vdc: 1000 megohms (min.)
or 100 ohm-farads (min.), whichever is less.

Aging:

3% (max.) per decade hr.

DIMENSION DRAWING



Dielectric Withstanding Voltage:

50% of rated voltage for 5 \pm 1 seconds, 50 milliamps (max)

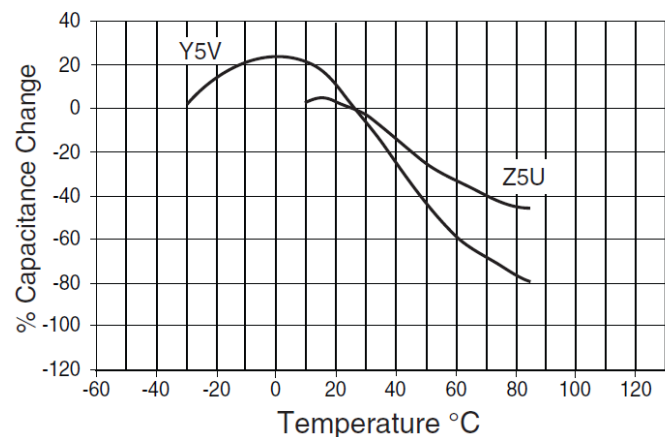
Note: Unless otherwise specified all test data is at +25°C.

HOW TO ORDER

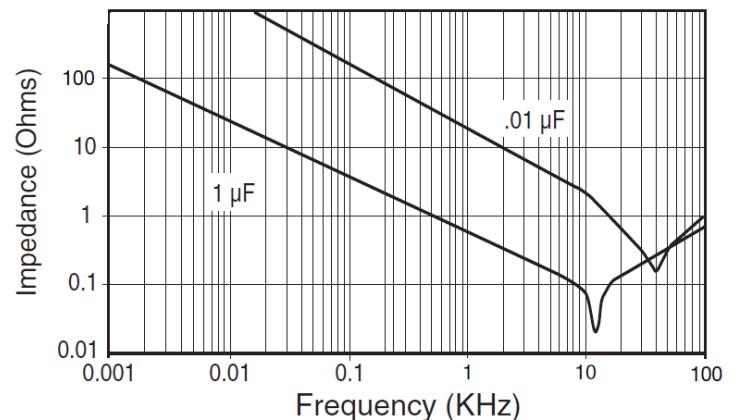
1206	Z5U	10	4	M	T	2	A	T																							
Size	Temperature Characteristic	Capacitance Code First 2 Significant Digits for Capacity	Indicates number of zeros following digits of capacitance in picofarads		Termination Code T = Tin plated over Nickel Barrier (Standard), RoHS Compliant W = Tin/Lead, Solder Plated over Nickel Barrier**	Marking A = No mark		Packaging T=7" Reel																							
					**Consult KYOCERA AVX for availability																										
		<table border="1"> <thead> <tr> <th colspan="3">CAPACITANCE TOLERANCE</th> </tr> <tr> <th>Code</th> <th>M</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td>Tol.</td> <td>$\pm 20\%$</td> <td>+80, -20%</td> </tr> </tbody> </table>	CAPACITANCE TOLERANCE			Code	M	Z	Tol.	$\pm 20\%$	+80, -20%				<table border="1"> <thead> <tr> <th>WVDC Code</th> <th>A</th> <th>7</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>WVDC</td> <td>10</td> <td>16</td> <td>25</td> <td>50</td> <td>100*</td> <td>200*</td> </tr> </tbody> </table>	WVDC Code	A	7	1	2	3	4	WVDC	10	16	25	50	100*	200*		
CAPACITANCE TOLERANCE																															
Code	M	Z																													
Tol.	$\pm 20\%$	+80, -20%																													
WVDC Code	A	7	1	2	3	4																									
WVDC	10	16	25	50	100*	200*																									
		*Tighter tolerances available				*Special Order - Consult Factory																									

ELECTRICAL PERFORMANCE

Z5U/Y5V Temperature Coefficient of Capacitance



Z5U/Y5V Impedance vs. Frequency



RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

Z5U/Y5V Dielectric



SELECTION GUIDE

Case Size	0603	0805	1206	1210	1812	2225
Length (L)	.063 (1.60)	.079 (2.00)	.125 (3.18)	.125 (3.18)	.180 (4.57)	.220 (5.59)
Width (W)	.031 (0.80)	.049 (1.25)	.063 (1.60)	.100 (2.54)	.125 (3.18)	.250 (6.35)
Tol. L & W	±.005 (0.12)	±.008 (0.2)	±.008 (0.2)	±.008 (0.2)	±.012 (.305)	±.015 (0.38)
T Max.	.035 (0.10)	.054 (1.37)	.064 (1.63)	.070 (1.78)	.070 (1.78)	.080 (2.03)
Term. (MB) Min. Max.	.004 (.10) .015 (.38)	.010 (.25) .030 (.76)	.010 (.25) .030 (.76)	.010 (.25) .030 (.76)	.010 (.25) .030 (.76)	.010 (.25) .030 (.76)
Min. Cap.	222	103	123	123	473	823
Max. Cap. (code) & WVDC						
10V						
16V	564	225	685	106	106	226
25V	334	105	335	106	565	226
50V	154	684	185	335	475	186
100V	563	224	474	105	185	475
200V	153	563	154	334	564	185

Dimensions in inches (mm)
Higher voltages available upon request.

STANDARD EIA CAPACITANCE VALUES REFERENCE CHART

Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF	Cap. Code	Cap. pF
0R5	0.5	8R2	8.2	820	82	821	820	822	8200	563	.056	474	.47	395	3.9
1R0	1.0	100	10	101	100	102	1000	Cap. Code	Cap. pF	683	.068	564	.56	475	4.7
1R2	1.2	120	12	121	120	122	1200	823	.082	684	.68	565	.56	565	5.6
1R5	1.5	150	15	151	150	152	1500	103	.010	104	.10	824	.82	685	6.8
1R8	1.8	180	18	181	180	182	1800	123	.012	124	.12	105	1.0	825	8.2
2R2	2.2	220	22	221	220	222	2200	153	.015	154	.15	125	1.2	106	10.0
2R7	2.7	270	27	271	270	272	2700	183	.018	184	.18	155	1.5	126	12.0
3R3	3.3	330	33	331	330	332	3300	223	.022	224	.22	185	1.8	156	15.0
3R9	3.9	390	39	391	390	392	3900	273	.027	274	.27	225	2.2	186	18.0
4R7	4.7	470	47	471	470	472	4700	333	.033	334	.33	275	2.7	226	22.0
5R6	5.6	560	56	561	560	562	5600	393	.039	394	.39	335	3.3		
6R8	6.8	680	68	681	680	682	6800	473	.047						

RF/Microwave Capacitors

RF/Microwave General Purpose Capacitors

Tape & Reel Packing



DF EXCEPTIONS – X7R AND X5R DIELECTRIC

Rated WVDC	D.F.	DF Exceptions	
≥ 100 V	≤ 2.5%	≤ 3%	1206 ≥ 0.47 μF
		≤ 5%	0805 ≥ 0.1 μF, 0603 ≥ 0.068 μF, 1206 > 1 μF, 1210 ≥ 2.2 μF
50 V	≤ 2.5%	≤ 3%	0201 (50V), 0603 ≥ 0.047 μF, 0805 > 0.18 μF, 1206 ≥ 0.47 μF
		≤ 5%	1210 ≥ 4.7 μF
		≤ 10%	0402 ≥ 0.1 μF, 0603 > 0.1 μF, 0805 ≥ 1 μF, 1206 ≥ 2.2 μF, 1210 ≥ 10 μF
35 V	≤ 3.5%	≤ 10%	0603 ≥ 1 μF, 0805 ≥ 2.2 μF, 1210 ≥ 10 μF
25 V	≤ 3.5%	≤ 5%	0201 ≥ 0.01 μF, 0805 ≥ 1 μF, 1210 ≥ 10 μF
		≤ 7%	0603 ≥ 0.33 μF, 1206 ≥ 4.7 μF
		≤ 10%	0201 ≥ 0.1 μF, 0402 ≥ 0.10 μF, 0603 ≥ 0.47 μF, 0805 ≥ 2.2 μF, 1206 ≥ 6.8 μF, 1210 ≥ 22 μF
		≤ 12.5%	0402 ≥ 1 μF
16 V	≤ 3.5%	≤ 5%	0201 ≥ 0.01 μF, 0402 ≥ 0.033 μF, 0603 ≥ 0.15 μF, 0805 ≥ 0.68 μF, 1206 ≥ 2.2 μF, 1210 ≥ 4.7 μF
		≤ 10%	0201 ≥ 0.1 μF, 0402 ≥ 0.22 μF, 0603 ≥ 0.68 μF, 0805 ≥ 2.2 μF, 1206 ≥ 4.7 μF, 1210 ≥ 22 μF
10 V	≤ 5%	≤ 10%	0201 ≥ 0.012 μF, 0402 ≥ 0.33 μF (0402/X7R ≥ 0.22 mF), 0603 ≥ 0.33 μF, 0805 ≥ 2.2 μF, 1206 ≥ 4.7 μF, 1210 ≥ 22 μF
		≤ 15%	0201 ≥ 0.1 μF, 0402 ≥ 1 μF
6.3 V	≤ 10%	≤ 15%	0201 ≥ 0.1 μF, 0402 ≥ 1 μF, 0603 ≥ 10 μF, 0805 ≥ 4.7 μF, 1206 ≥ 47 μF, 1210 ≥ 100 μF
		≤ 20%	0402 ≥ 2.2 μF
4 V	V ≤ 15%	---	---

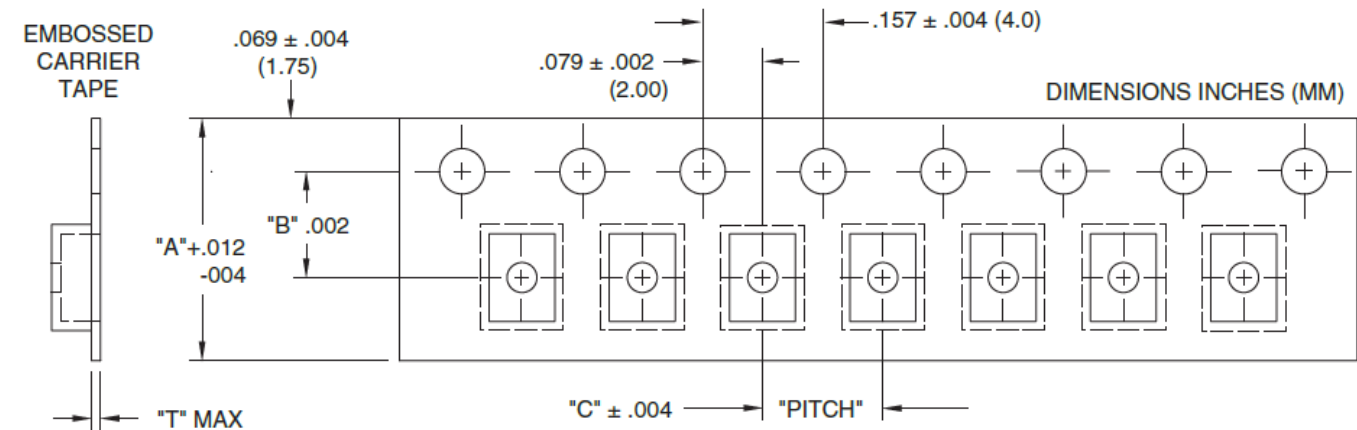
DF EXCEPTIONS – Y5V DIELECTRIC

Rated WVDC	D.F.	DF Exceptions	
≥ 50 V	≤ 5%	≤ 7%	0603 ≥ 0.1 μF, 0805 ≥ 0.47 μF, 1206 ≥ 4.7 μF
35 V	≤ 3.5%	---	---
25 V	≤ 5%	≤ 7%	0402 ≥ 0.047 μF, 0603 ≥ 0.1 μF, 0805 ≥ 0.33 μF, 1206 ≥ 1 μF, 1210 ≥ 4.7 μF
		≤ 9%	0402 ≥ 0.068 μF, 0603 ≥ 0.47 μF, 1206 ≥ 4.7 μF, 1210 ≥ 22 mF, Cap ≥ 1 μF
16 V (C<1.0 μF)	≤ 7%	≤ 9%	0402 ≥ 0.068 μF, 0603 ≥ 0.68 μF
		≤ 12.5%	0402 ≥ 0.22 μF
16 V (C≥1.0 μF)	≤ 3.5%	≤ 12.5%	0603 ≥ 2.2 μF, 0805 ≥ 3.3 μF, 1206 ≥ 10 μF, 1210 ≥ 22 μF, 1812 ≥ 47 μF
10 V	≤ 12.5%	≤ 20%	0402 ≥ 0.47 μF
6.3 V	≤ 20 %	---	---

RF/Microwave Capacitors
 RF/Microwave General Purpose Capacitors
 NP0 (C0G) Dielectric



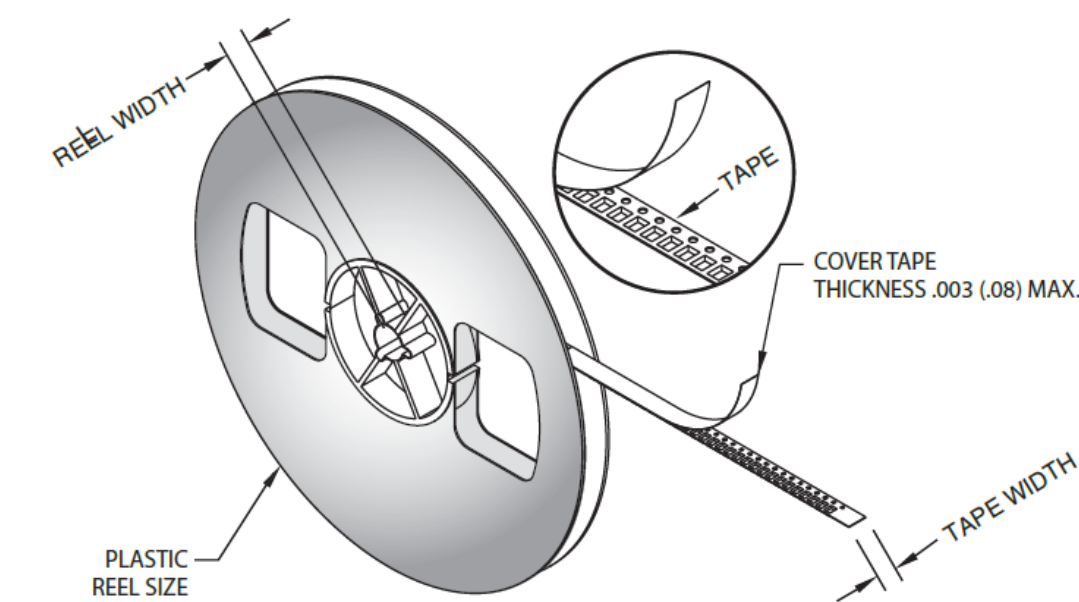
GENERAL PURPOSE SMT TAPE AND REEL PACKAGING SPECIFICATIONS



CHIP CASE SIZE	"A" DIM. MAX.	"B" DIM.	"C" DIM.	"T" DIM. MAX.	REEL WIDTH MAX.	QTY. MAX PER REEL TYP.
0402*	.327 (8.30)	.138 (3.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.567 (14.4)	10,000
0603	.327 (8.30)	.138 (3.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.567 (14.4)	4,000
0805	.327 (8.30)	.138 (3.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.567 (14.4)	4,000
1206	.327 (8.30)	.138 (3.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.567 (14.4)	4,000
1210	.327 (8.30)	.138 (3.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.567 (14.4)	2,000 to 4,000
1812	.484 (12.3)	.217 (5.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.724 (18.4)	1,000
2225	.484 (12.3)	.217 (5.50) ±.002 (±0.05)	.157 (4.00) ±.004 (±0.10)	.024 (0.60)	.724 (18.4)	1,000

*0402 uses paper carrier tape; all other sizes use embossed carrier tape
 NOTE: Reel size is 7.0 (177.8)

Dimensions in inches (mm)



NOTE: Part orientation is horizontal for all chip case sizes.

Mouser Electronics

Authorized Distributor

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KYOCERA AVX:

<u>0805X7R104KW1AT</u>	<u>603X7R104JT1AT</u>	<u>402NPO102JT2AT</u>	<u>0603X7R104JT1AT</u>	<u>0402NPO102JT2AT</u>
<u>0805X7R105JT7AT</u>	<u>0402X7R561JT2AT</u>	<u>1812NPO102KL8AT</u>	<u>0603NPO2R2CT2AT</u>	<u>0603NPO101JT2AT</u>
<u>0603X7R105KT7AT</u>	<u>0402X7R222KT2AT</u>	<u>0603NPO100JT3AT</u>	<u>0603X7R103JT2AT</u>	<u>0603NPO271JT4AT</u>
<u>0603X7R104KT2AT</u>	<u>0805NPO6R8CT3AT</u>	<u>0603X5R105KTAAT</u>	<u>0402X7R104KT7AT</u>	<u>1210X7R334JC1AT</u>
<u>0603NPO220JT2AT</u>	<u>0603NPO100CT2AT</u>	<u>0603NPO101GT2AT</u>	<u>0603NPO101JT4AT</u>	<u>0603NPO101JW2AT</u>
<u>0603NPO102GT2AT</u>	<u>0603NPO102JT3AT</u>	<u>0603NPO391JT2AT</u>	<u>0603NPO4R7CW2AT</u>	<u>0603NPO821JT3AT</u>
<u>0603NPO221JT2AT</u>	<u>0603NPO2R7BT2AT</u>	<u>0603NPO390GT2AT</u>	<u>0603NPO180JT2AT</u>	<u>0603NPO181JT2AT</u>
<u>0603NPO1R5BT2AT</u>	<u>0603NPO560JT2AT</u>	<u>0603X5R475KT7AT</u>	<u>0603NPO331JT2ST</u>	<u>0603X5R225KTAAT</u>
<u>0402NPO100JT2AT</u>	<u>1812NPO103JW3AT</u>	<u>0402NPO101JT2AT</u>	<u>0402NPO150JT2AT</u>	<u>0402NPO151JT2AT</u>
<u>0402NPO180JT2AT</u>	<u>0402NPO220JT2AT</u>	<u>0402NPO221JT2AT</u>	<u>0402NPO270JT2AT</u>	<u>0402NPO330JT2AT</u>
<u>0402NPO470GT2AT</u>	<u>0402NPO680JT2AT</u>	<u>0402NPO6R8CT2AT</u>	<u>0402X5R105KTAAT</u>	<u>0402X5R474KTAAT</u>
<u>0603X5R225KWAAT</u>	<u>0805NPO100GT2AT</u>	<u>0805NPO120GT2AT</u>	<u>0805NPO220FT2AT</u>	<u>0805NPO2R2BT3AT</u>
<u>0805NPO330GT2AT</u>	<u>0805NPO471JT5AT</u>	<u>0805NPO680GT2AT</u>	<u>0805NPO821JT5AT</u>	<u>0805NPO8R2CT3AT</u>
<u>1206NPO101GT3AT</u>	<u>1206NPO102GT2AT</u>	<u>1206NPO102GT4AT</u>	<u>1206NPO102JT2AT</u>	<u>1206NPO102KT2AT</u>
<u>1206NPO121GT3AT</u>	<u>1206NPO121GT4AT</u>	<u>1206NPO121JT2AT</u>	<u>1206NPO151GT3AT</u>	<u>1206NPO181GT4AT</u>
<u>1206NPO182GT2AT</u>	<u>1206NPO220GT3AT</u>	<u>1206NPO220JT2AT</u>	<u>1206NPO222JT2AT</u>	<u>1206NPO270GT3AT</u>
<u>1206NPO271GT4AT</u>	<u>1206NPO300GT4AT</u>	<u>1206NPO301GT4AT</u>	<u>1206NPO331GT2AT</u>	<u>1206NPO331GT4AT</u>
<u>1206NPO332GT2AT</u>	<u>1206NPO361GT4AT</u>	<u>1206NPO391GT4AT</u>	<u>1206NPO471GT3AT</u>	<u>1206NPO471KT6AT</u>
<u>1206NPO511GT4AT</u>	<u>1206NPO560GT2AT</u>	<u>1206NPO561GT2AT</u>	<u>1206NPO561JT2AT</u>	<u>1206NPO680GT2AT</u>
<u>1206NPO681GT4AT</u>	<u>1206NPO751GT4AT</u>	<u>1206NPO820GT3AT</u>	<u>1206NPO820GT4AT</u>	<u>1206NPO821GT4AT</u>