





# C Series Commercial Grade Soft Termination

Type: C1005 [EIA CC0402]

C1608 [EIA CC0603] C2012 [EIA CC0805]

C3216 [EIA CC1206]

C3225 [EIA CC1210]

C4520 [EIA CC1808]

C4532 [EIA CC1812]

C5750 [EIA CC2220]

C7563 [EIA CC3025]

#### REMINDERS

Please read before using this product

#### **SAFETY REMINDERS**

#### REMINDERS

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Notice: Effective January 2013, TDK will use a new catalog number which adds product thickness and packaging specifi cation detail. This new catalog number should be referenced on all catalog orders going forward, and is not applicable for OEM part number orders. Please be aware the last fi ve digits of the catalog number will differ from the item description (internal control number) on the product label. Contact your local TDK Sales representative for more information.

#### (Example)

Catalog Issued date	Catalog Number	Item Description (On Delivery Label)
Prior to January 2013	C1608C0G1E103J(080AA)	C1608C0G1E103JT000N
January 2013 and Later	C1608C0G1E103J080AA	C1608C0G1E103JT000N



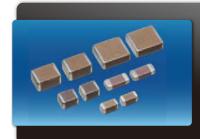






Lead Free

RoHS COMPLIANT



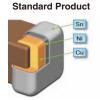
# **C** Series

### Soft Termination

Type: C1005 [EIA CC0402], C1608 [EIA CC0603], C2012 [EIA CC0805], C3216 [EIA CC1206], C3225 [EIA CC1210], C4520 [EIA CC1808], C4532 [EIA CC1812], C5750 [EIA CC2220], C7563 [EIA CC3025]

#### **Features**

- Improved board bending resistance, drop impact resistance, thermal shock resistance, and heat cycle properties.
- Conductive resin absorb external stress to protect solder joint parts and capacitor body.
- Compliance with the RoHS Directive.



1.30 mm 1.60 mm 2.00 mm

2.30 mm 2.50 mm 2.80 mm

Special Reserved Code

Description

Soft Termination

Code

Ε



#### **Applications**

- · Switching power supply
- · Telecom base station
- Electronic circuits mounted on alumina substrate
- SMT application which requires bending robustness in which solder joint reliability is problematic



L	Body Length	
W	Body Width	
Т	Body Height	
В	Terminal Width	
G	Terminal Spacing	

Shape & **Dimensions** 

2-4-1	Muselean	
_	Number (	C • 7563 • X7S • 1C • 107 • M • 280 • L •
Constru	ıction \	0 - 7000 - X70 - 10 - 107 - 111 - 200 - E -
Series Na	ame •	<i>-</i>
Dimensio	ons L x W (mm)	
Code	Length	Width Terminal
C1005	1.00 + 0.15/-0.05	0.50 + 0.10/-0.05 0.10 min.
C1608	1.60 + 0.20/-0.10	0.80 + 0.15/-0.10 0.20 min.
C2012	2.00 + 0.45/-0.20	1.25 + 0.25/-0.20 0.20 min.
C3216	3.20 + 0.40/-0.20	1.60 + 0.30/-0.20 0.20 min.
C3225	3.20 + 0.50/-0.40	2.50 ± 0.30 0.20 min.
C4520 C4532	4.50 + 0.30/-0.20 4.50 + 0.50/-0.40	2.00 ± 0.15 0.20 min. 3.20 ± 0.40 0.20 min.
C5750	5.70 + 0.50/-0.40	3.00 ± 0.40
C7563	7.50 ± 0.50	5.30 ± 0.50
	tolerance are typical values	5.55 2 5.65
empera	ture Characteristic	CS •
Tempera		re Coefficient or Temperature
Characte		
COG	0 ±30ppm/°	
X7R	±15%	-55 to +125°C
X7S	±22%	-55 to +125°C
X7T	+22/-33%	-55 to +125°C
X8R	±15%	-55 to +150°C
X8L	+15/-40%	-55 to +150°C
Rated Vo		-00 to 1100 0
arca 40	oltage (DC)	-55 to 1150 0
	• ,	Nominal Capacitance (pF)
Code	Voltage (DC)	Nominal Capacitance (pF)
Code 1A	Voltage (DC)	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).
Code	Voltage (DC)	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the
1A 1C 1E 1V	Voltage (DC)  10V  16V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.
1A 1C 1E 1V 1H	Voltage (DC)  10V  16V  25V  35V  50V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the
1A 1C 1E 1V 1H 2A	Voltage (DC)  10V 16V 25V 35V 50V 100V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF
1A 1C 1E 1V 1H 2A 2E	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance
1A 1C 1E 1V 1H 2A 2E 2W	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance
1A 1C 1E 1V 1H 2A 2E 2W 2J	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V  630V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5%
1A 1C 1E 1V 1H 2A 2E 2W 2J 3A	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V  630V  1000V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10%
1A 1C 1E 1V 1H 2A 2E 2W 2J	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V  630V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5%
Code  1A 1C 1E 1V 1H 2A 2E 2W 2J 3A 3D 3F	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V  450V  630V  1000V  2000V  3000V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10%
Code  1A 1C 1E 1V 1H 2A 2E 2W 2J 3A 3D 3F	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 450V 630V 1000V 2000V 3000V	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10%
1A 1C 1E 1V 1H 2A 2E 2W 2J 3A 3D 3F	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 450V 630V 1000V 2000V 3000V  Thickness Thickness	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5%  K ± 10%  M ± 20%
Code  1A 1C 1E 1V 1H 2A 2E 2W 2J 3A 3D 3F  Vominal Code 050	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 450V 1000V 2000V 3000V  Thickness 0.50 mm	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10% M ± 20%  Packaging Style
Code  1A  1C  1E  1V  1H  2A  2E  2W  2J  3A  3D  3F  Nominal  Code  050  080	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 630V 1000V 2000V 3000V  Thickness 0.50 mm 0.80 mm	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF).  The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 55% K ± 10% M ± 20%  Packaging Style  Code Style
Code  1A 1C 1E 1V 1H 2A 2E 2W 3A 3D 3F  Sominal Code 050 080 085	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 4630V 1000V 2000V 2000V Thickness 0.50 mm 0.80 mm 0.85 mm	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10% M ± 20%  Packaging Style  Code Style  A 178mm Reel, 4mm Pitch
Code  1A 1C 1C 1E 1V 1H 2A 2E 2W 2J 3A 3D 3F  Code 050 080 085 115	Voltage (DC)  10V  16V  25V  35V  50V  100V  250V  450V  450V  2000V  3000V  Thickness  0.50 mm  0.80 mm  0.85 mm  1.15 mm	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10% M ± 20%  Packaging Style  Code Style  A 178mm Reel, 4mm Pitch B 178mm Reel, 2mm Pitch
Code  1A 1C 1E 1V 1H 2A 2E 2W 3A 3D 3F  Sominal Code 050 080 085	Voltage (DC)  10V 16V 25V 35V 50V 100V 250V 450V 4630V 1000V 2000V 2000V Thickness 0.50 mm 0.80 mm 0.85 mm	Nominal Capacitance (pF)  The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.  Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF  Capacitance Tolerance  Code Tolerance  J ± 5% K ± 10% M ± 20%  Packaging Style  Code Style  A 178mm Reel, 4mm Pitch

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

#### Capacitance **Range Chart**

### EIA CC0402[C1005]

#### **Capacitance Range Chart**

Temperature Characteristics : C0G(0±30ppm/°C), X7R(±15%), X8R(±15%)

Rated Voltage: 100V(2A), 50V(1H), 35V(1V), 25V(1E), 16V(1C)

	.90	) v (ZA), 30 v (111)	,, 551(1	,, (	. – /,	(.0)		1			
Capacitan	ce	T.	C0G		X	'R			X	3R	
(pF)	Code	Tolerance	1H (50V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)
100	101	J:±5%									
150	151	K:±10%									
220	221	M:±20%									
330	331										
470	471										
680	681										
1,000	102										
1,500	152							-			
2,200	222			•							
3,300	332										
4,700	472										
6,800	682										
10,000	103										
15,000	153										
22,000	223										
33,000	333										
47,000	473										
100,000	104										
220,000	224										

nickness mm

#### **Capacitance Range Chart**

### EIA CC0603 [C1608]

#### **Capacitance Range Chart**

Temperature Characteristics : C0G(0±30ppm/°C), X7R(±15%), X7S(±22%), X8R(±15%)

Rated Voltage: 100V(2A), 50V(1H), 35V(1V), 25V(1E), 16V(1C), 10V(1A)

Capacitan	се	T.	COG			X7R			X7S		XX	3R	
(pF)	Code	Tolerance	1H (50V)	2A (100V)	1H (50V)	1V (35V)	1E (25V)	1A (10V)	2A (100V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)
100	101	J:±5%											
1,000	102	K:±10%											
1,500	152	M:±20%											
2,200	222												
3,300	332												
4,700	472												
6,800	682												
10,000	103												
15,000	153												
22,000	223			•	•					•	•		
33,000	333												
47,000	473												
68,000	683										_		
100,000	104												
150,000	154												
220,000	224												
330,000	334												
470,000	474												
1,000,000	105												
2,200,000	225												

Standard Thickness

0.80 mm

**&TDK** 

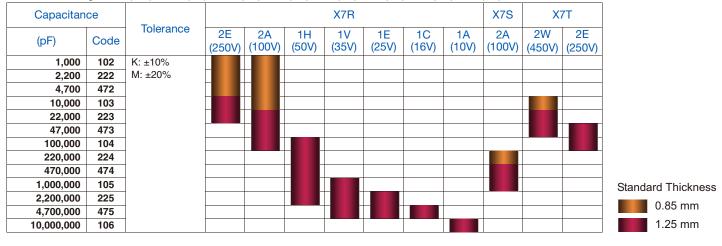
#### Capacitance Range Chart

### EIA CC0805 [C2012]

#### **Capacitance Range Chart**

Temperature Characteristics: X7R(±15%), X7S(±22%), X7T(+22/-33%)

Rated Voltage: 450(2W), 250V(2E), 100V(2A), 50V(1H), 35V(1V), 25V(1E), 16V(1C), 10V(1A)



#### **Capacitance Range Chart**

Temperature Characteristics : X8R(±15%), X8L(+15/-40%) Rated Voltage : 100V(2A), 50V(1H), 25V(1E), 16V(1C)

Capacitan	се	T.		XX	BR		X8L	
(pF)	Code	Tolerance	2A (100V)	1H (50V)	1E (25V)	1C (16V)	1 <b>H</b> (50V)	
22,000	223	K: ±10%						
33,000	333	M: ±20%						
47,000	473							
68,000	683							
100,000	104							
150,000	154							
220,000	224							
330,000	334							Standard Thickness
470,000	474							0.85 mm
680,000	684							
1,000,000	105							1.25 mm



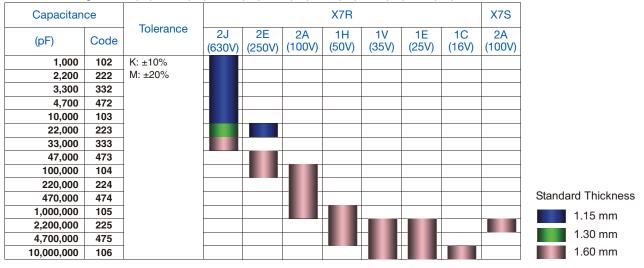
#### Capacitance Range Chart

### EIA CC1206 [C3216]

#### **Capacitance Range Chart**

Temperature Characteristics: X7R(±15%), X7S(±22%)

Rated Voltage: 630V(2J), 250V(2E), 100V(2A), 50V(1H), 35V(1V), 25V(1E), 16V(1C)



#### **Capacitance Range Chart**

Temperature Characteristics: X7T(+22/-33%), X8R(±15%)

Rated Voltage: 630V(2J), 450(2W), 250V(2E), 100V(2A), 50V(1H), 25V(1E), 16V(1C)

Capacitan	се		X7T X8R							
(pF)	Code	Tolerance	2J (630V)	2W (450V)	2E (250V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)	
47,000	473	K: ±10%								
100,000	104	M: ±20%								
150,000	154									
220,000	224									
330,000	334									
470,000	474									
680,000	684									
1,000,000	105									
1,500,000	155									Standard Thickness
2,200,000	225									1.15 mm
3,300,000	335									
4,700,000	475									1.60 mm

**ATDK** 

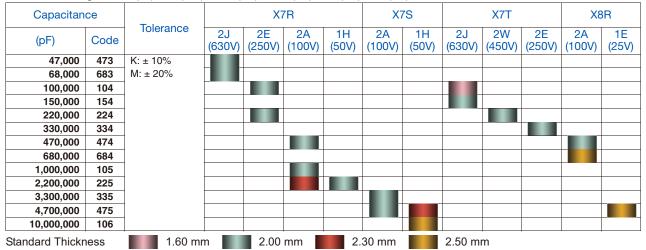
#### Capacitance Range Chart

### EIA CC1210[C3225]

#### **Capacitance Range Chart**

Temperature Characteristics : X7R(±15%), X7S(±22%), X7T(+22/-33%), X8R(±15%)

Rated Voltage: 630V(2J), 450(2W), 250V(2E), 100V(2A), 50V(1H), 25V(1E)



#### Capacitance Range Chart

EIA CC1808 [C4520]

#### **Capacitance Range Chart**

Temperature Characteristics: X7R (±15%)

Rated Voltage: 2000V (3D)

Capacitan	ce	T-1	X7R
(pF)	Code	Tolerance	3D (2000V)
1,000	102	K: ± 10% M: ± 20%	

Standard Thickness
1.30 mm

#### Capacitance Range Chart

EIA CC1812 [C4532]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G(0±30ppm/°C), X7R (±15%), X7T (+22/-33%)

Rated Voltage: 3000V(3F), 2000(3D), 630V(2J), 450(2W), 250V(2E)

	<u> </u>	( // (	, , ,	\ //	\ //	,	, ,			
Capacitar	nce		C0G X7R			X7T				
(pF)	Code	Tolerance	3F (3000V)	3D (2000V)	2J (630V)	2E (250V)	2J (630V)	2W (450V)	2E (250V)	Standard Thickness
330	331	K: ± 10%								Standard mickness
2,200	222	K: ± 10%								1.30 mm
100,000	104	M: ± 20%								2.00 mm
220,000	224									0.00
470,000	474									2.30 mm
1,000,000	105									2.50 mm

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#### Capacitance Range Chart

### EIA CC2220 [C5750]

#### **Capacitance Range Chart**

Temperature Characteristics: X7R (±15%), X7S (±22%), X7T (+22/-33%)

Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)

Capacitan	Capacitance		X	7R	X7S	'S X7T			
(pF)	Code	Tolerance	2J (630V)	2E (250V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)	
220,000	224	K: ± 10%							
470,000	474	M: ± 20%							Star
1,000,000	105								
2,200,000	225							_	
10,000,000	106								

Standard Thickness

2.30 mm 2.50 mm

# **Capacitance Range Chart**

EIA CC3025 [C7563]

#### **Capacitance Range Chart**

Temperature Characteristics : X7S (±22%) Rated Voltage : 50V (1H), 16V (1C)

Capacitan	се	T-1	X7S			
(pF)	Code	Tolerance	1H (50V)	1C (16V)		
22,000,000	226	M: ± 20%				
100,000,000	107					

Standard Thickness

2.30 mm 2.80 mm



### **Capacitance Range Table**

#### **Class 1 (Temperature Compensating)**

Temperature Characteristics: C0G (-55 to +125  $^{\circ}$ C, 0 ± 30 ppm/ $^{\circ}$ C)

Capacitance	Size	Thickness	Capacitance	Catalog Number	
 Сараспансе	Size	(mm)	Tolerance	Rated Voltage Edc: 3000V	Rated Voltage Edc: 50V
100pF -	1005	0.50+0.10/-0.05	±5%		C1005C0G1H101J050BE
тоорг —	1608	0.80+0.15/-0.10	±5%		C1608C0G1H101J080AE
330pF	4532	2.50 ± 0.20	± 10%	C4532C0G3F331K250KE	

#### Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to  $\pm 125^{\circ}\text{C}$ ,  $\pm 15\%$ )

Capacitance	Size		Capacitance			=			
-		(mm)	Tolerance ±10%	Rated Voltage Edc: 2000V	Rated Voltage Edc: 630V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V	Rated Voltage Edc: 50V C1005X7R1H102K050BB	
	1005	0.50+0.10/-0.05	±10%					C1005X7R1H102K050B	
			+10%				C1608X7R2A102K080AE	C1608X7R1H102K080A	
	1608	0.80 +0.15/-0.10-	±20%				C1608X7R2A102M080AE	C1608X7R1H102M080A	
			±10%			C2012X7R2E102K085AE	C2012X7R2A102K085AE		
1nF	2012	0.85±0.15	±20%			C2012X7R2E102M085AE	C2012X7R2A102M085AE		
<del></del>	3216	1.15±0.15	±10%		C3216X7R2J102K115AE				
	3210	1.15±0.15	±20%		C3216X7R2J102M115AE				
	4520	1.30±0.15	±10%	C4520X7R3D102K130KE					
			±20%	C4520X7R3D102M130KE					
	1005	0.50+0.10/-0.05	±10%					C1005X7R1H222K050E	
_			±20%				04000/7004000/00045	C1005X7R1H222M050E	
	1608	0.80+0.15/-0.10	±10%				C1608X7R2A222K080AE	C1608X7R1H222K080A	
-			±20%			C2012X7R2E222K085AE	C1608X7R2A222M080AE C2012X7R2A222K085AE	C1608X7R1H222M080A	
2.2nF	2012	0.85±0.15	±20%			C2012X7R2E222R085AE	C2012X7R2A222M085AE		
_			±10%		C3216X7R2J222K115AE	OLO 12XI I I LLELLE MODO I L	OLO 12XI TILI ILLLINIOGO IL		
	3216	1.15±0.15	±20%		C3216X7R2J222M115AE				
_	45	100 - :-	±10%	C4532X7R3D222K130KE					
	4532	1.30±0.15	±20%	C4532X7R3D222M130KE					
0.0	0010	445.045	±10%	-,,-	C3216X7R2J332K115AE				
3.3nF	3216	1.15±0.15	±20%		C3216X7R2J332M115AE				
	1005	0.50+0.10/-0.05	±10%					C1005X7R1H472K050B	
	1005	0.50+0.10/-0.05	±20%					C1005X7R1H472M050B	
	1608	0.80+0.15/-0.10 - 0.85±0.15 -	±10%				C1608X7R2A472K080AE	C1608X7R1H472K080A	
4.7nF —	1000		±20%				C1608X7R2A472M080AE	C1608X7R1H472M080A	
4.711	2012		±10%			C2012X7R2E472K085AE	C2012X7R2A472K085AE		
	2012	0.0010.10	±20%			C2012X7R2E472M085AE	C2012X7R2A472M085AE		
	3216	1.15±0.15	±10%		C3216X7R2J472K115AE				
			±20%		C3216X7R2J472M115AE				
	1005	0.50+0.10/-0.05	±10%					C1005X7R1H103K050B	
_			±20%				04000)/70044001/00045	C1005X7R1H103M050E	
	1608	0.80 +0.15/-0.10	±10%				C1608X7R2A103K080AE	C1608X7R1H103K080A	
_			±20% ±10%				C1608X7R2A103M080AE C2012X7R2A103K085AE	C1608X7R1H103M080A	
10nF		0.85±0.15	±20%				C2012X7R2A103M085AE		
	2012		±10%			C2012X7R2E103K125AE	OZO IZXI IIZA I OOMOOSAL		
		1.25 +0.25/-0.20	±20%			C2012X7R2E103M125AE			
_			±10%		C3216X7R2J103K115AE	02012/11/122100/11/20/12			
	3216	1.15±0.15	±20%		C3216X7R2J103M115AE				
	1005	0.50 0.40/ 0.05	+10%					C1005X7R1H223K050E	
	1005	0.50+0.10/-0.05	±20%					C1005X7R1H223M050E	
	1000	0.00.0.15/0.10	±10%				C1608X7R2A223K080AE	C1608X7R1H223K080A	
	1608	0.80+0.15/-0.10	±20%				C1608X7R2A223M080AE	C1608X7R1H223M080A	
22nF	2012 1.25 +0.	1.25 +0.25/-0.20	±10%			C2012X7R2E223K125AE	C2012X7R2A223K125AE		
		L 1.20 TU.20/-U.20	±20%			C2012X7R2E223M125AE	C2012X7R2A223M125AE		
		1.15±0.15	1,15±0.15	±10%			C3216X7R2E223K115AE		
	3216		±20%			C3216X7R2E223M115AE			
		1.30±0.20	±10%		C3216X7R2J223K130AE				
			±20%		C3216X7R2J223M130AE				
33nF	3216	1.60+0.30/-0.20	±10%		C3216X7R2J333K160AE				
			±20%		C3216X7R2J333M160AE			C400EV7D411470V6555	
	1005	0.50+0.10/-0.05	±10%					C1005X7R1H473K050E	
_			±20%					C1608X7R1H473K080A	
	1608	0.80+0.15/-0.10	±10% ±20%					C1608X7R1H473K080A C1608X7R1H473M080A	
_			±20% ±10%				C2012X7R2A473K125AE	01000A/111H4/3WI080A	
47nF	2012	1.25+0.25/-0.20	±10%				C2012X7R2A473K125AE		
-			±20%			C3216X7R2E473K160AE	OLU ILATTILATTURITZUAE		
	3216	1.60+0.30/-0.20	±10/0			SOL TOXTTILL#TORTOUAL			
	3216	1.60+0.30/-0.20	+20%			C3216X7R2F473M160AF			
_	3216 3225	2.00 +0.30/-0.20	±20% ±10%		C3225X7R2J473K200AE	C3216X7R2E473M160AE			

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.



# **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to  $\pm 125^{\circ}\text{C}$ ,  $\pm 15^{\circ}\text{C}$ )

Capacitance	Size	Thickness	Capacitance	Catalog Number					
		(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V	Rated Voltage Edc: 50V		
68nF	3225	2.00+0.30/-0.20	±10%	C3225X7R2J683K200AE					
			±20% ±10%	C3225X7R2J683M200AE			C1005X7R1H104K050BE		
_	1005	0.50+0.10/-0.05	±10%				C1005X7R1H104R050BE		
			±20%				C1608X7R1H104W030BE		
	1608	0.80 +0.15/-0.10	±20%				C1608X7R1H104M080AE		
			+10%			C2012X7R2A104K125AE	C2012X7R1H104K125AE		
	2012	1.25 +0.25/-0.20	±20%			C2012X7R2A104M125AE	C2012X7R1H104M125AE		
100nF -			+10%		C3216X7R2E104K160AE	C3216X7R2A104K160AE	02012/0111110111120/12		
	3216	1.60 +0.30/-0.20	±20%		C3216X7R2E104M160AE	C3216X7R2A104M160AE			
_			+10%		C3225X7R2E104K200AE				
	3225	2.00 +0.30/-0.20	±20%		C3225X7R2E104M200AE				
_			±10%	C4532X7R2J104K230KE					
	4532	2.30+0.30/-0.20	±20%	C4532X7R2J104M230KE					
			±10%				C1608X7R1H224K080AE		
	1608	0.80+0.15/-0.10	±20%				C1608X7R1H224M080AE		
_	2010	4.05.0.05/0.00	±10%				C2012X7R1H224K125AE		
	2012	1.25+0.25/-0.20	±20%				C2012X7R1H224M125AE		
	0040	4.45.0.45	±10%			C3216X7R2A224K115AE			
220nF	3216	1.15±0.15	±20%			C3216X7R2A224M115AE			
_	2005	2.00 +0.30/-0.20	±10%		C3225X7R2E224K200AE				
	3225		±20%		C3225X7R2E224M200AE				
_	E7E0	2.30+0.30/-0.20	±10%	C5750X7R2J224K230KE					
	5750		±20%	C5750X7R2J224M230KE					
	1608	0.80 +0.15/-0.10	±10%				C1608X7R1H474K080AE		
			±20%				C1608X7R1H474M080AE		
	2012	1.25 +0.25/-0.20	±10%				C2012X7R1H474K125AE		
_			±20%				C2012X7R1H474M125AE		
470nF	3216	1.60 +0.30/-0.20	±10%			C3216X7R2A474K160AE			
47 OIII		1.00 10.00/ 0.20	±20%			C3216X7R2A474M160AE			
	3225	2.00+0.30/-0.20	±10%			C3225X7R2A474K200AE			
_	0220	2.0010.007 0.20	±20%			C3225X7R2A474M200AE			
	4532	2.00 +0.30/-0.20	±10%		C4532X7R2E474K230KE				
	4302	4302	2.00 10.007 0.20	±20%		C4532X7R2E474M230KE			
	2012	2012	2012	1.25 +0.25/-0.20	±10%				C2012X7R1H105K125AE
_		1120 101207 0120	±20%				C2012X7R1H105M125AE		
	3216	1.60 +0.30/-0.20	±10%			C3216X7R2A105K160AE	C3216X7R1H105K160AE		
1uF -			±20%			C3216X7R2A105M160AE	C3216X7R1H105M160AE		
	3225	2.00+0.30/-0.20	±10%			C3225X7R2A105K200AE			
_			±20%			C3225X7R2A105M200AE			
	5750	2.00 +0.30/-0.20	±10%		C5750X7R2E105K230KE				
			±20%		C5750X7R2E105M230KE				
	2012	1.25 +0.25/-0.20	±10%				C2012X7R1H225K125AE		
_			±20%				C2012X7R1H225M125AE		
	3216	1.60 +0.30/-0.20	±10%				C3216X7R1H225K160AE		
2.2uF -			±20%				C3216X7R1H225M160AE		
		2.00+0.30/-0.20	±10%				C3225X7R1H225K200AE		
	3225	-	±20%			000057420070005	C3225X7R1H225M200AE		
		2.30 +0.30/-0.20	±10%			C3225X7R2A225K230AE			
			±20%			C3225X7R2A225M230AE	0004072041142514455		
4.7uF	3216	1.60 +0.30/-0.20	±10%				C3216X7R1H475K160AE		
			±20%				C3216X7R1H475M160AE		



### **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to  $\pm 125^{\circ}\text{C}$ ,  $\pm 15^{\circ}\text{C}$ )

Capacitance	Size	Thickness	Capacitance	Catalog Number			
Capacitance	Size	(mm)	Tolerance	Rated Voltage Edc: 35V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
000	1005	0.5 +0.10/-0.05	±10%	C1005X7R1V224K050BE	C1005X7R1E224K050BE	C1005X7R1C224K050BE	
220nF	1005	0.5 +0.10/-0.05	±20%	C1005X7R1V224M050BE	C1005X7R1E224M050BE	C1005X7R1C224M050BE	
470×F	1000	0.0 .0 15/ 0.10	±10%	C1608X7R1V474K080AE	C1608X7R1E474K080AE		
470nF	1608	0.8 +0.15/-0.10	±20%	C1608X7R1V474M080AE	C1608X7R1E474M080AE		
	1608	0.0 .0 15/ 0.10	±10%	C1608X7R1V105K080AE	C1608X7R1E105K080AE		
1uF -	1608	0.8 +0.15/-0.10	±20%	C1608X7R1V105M080AE	C1608X7R1E105M080AE		
TUF —	2012	1.25 +0.25/-0.20	±10%	C2012X7R1V105K125AE			
	2012	1.25 +0.25/-0.20	±20%	C2012X7R1V105M125AE			
	1608	0.8 +0.15/-0.10	±10%				C1608X7R1A225K080AE
	1008		±20%				C1608X7R1A225M080AE
2.2uF	2012	1.25 +0.25/-0.20	±10%	C2012X7R1V225K125AE	C2012X7R1E225K125AE		
2.2uF			±20%	C2012X7R1V225M125AE	C2012X7R1E225M125AE		
_	3216	1.60 +0.30/-0.20	±10%	C3216X7R1V225K160AE	C3216X7R1E225K160AE		
	3210		±20%	C3216X7R1V225M160AE	C3216X7R1E225M160AE		
	2012	1.25 +0.25/-0.20	±10%	C2012X7R1V475K125AE	C2012X7R1E475K125AE	C2012X7R1C475K125AE	
4.7uE	2012	1.25 +0.25/-0.20	±20%	C2012X7R1V475M125AE	C2012X7R1E475M125AE	C2012X7R1C475M125AE	
4.7uF —	3216	1.60 +0.30/-0.20	±10%	C3216X7R1V475K160AE	C3216X7R1E475K160AE		
	3210	1.00 +0.30/-0.20	±20%	C3216X7R1V475M160AE	C3216X7R1E475M160AE		
-	2012	1.25 +0.25/-0.20	±10%		·	·	C2012X7R1A106K125AE
10uF -	2012	1.20 +0.20/-0.20	±20%				C2012X7R1A106M125AE
Tour —	2216	1.60 +0.30/-0.20	±10%	C3216X7R1V106K160AE	C3216X7R1E106K160AE	C3216X7R1C106K160AE	
	3216	1.00 +0.30/-0.20	±20%	C3216X7R1V106M160AE	C3216X7R1E106M160AE	C3216X7R1C106M160AE	

#### Class 2 (Temperature Stable)

Temperature Characteristics: X7S (-55 to  $\pm 125^{\circ}\text{C}$ ,  $\pm 22\%$ )

Capacitance	Size	Thickness	Capacitance	Catalog Number		
Capacitatice	Size	(mm)	Tolerance	Rated Voltage Edc: 100V	Rated Voltage Edc: 50V	Rated Voltage Edc: 16V
4.7nF	1608	0.8 +0.15/-0.10	±10%	C1608X7S2A473K080AE		
4.711	1000	0.6 +0.15/-0.10	±20%	C1608X7S2A473M080AE		
100nF	1608	0.8 +0.15/-0.10	±10%	C1608X7S2A104K080AE		
TOOTIF	1000	0.6 +0.15/-0.10	±20%	C1608X7S2A104M080AE		
220nF	2012	0.85±0.15	±10%	C2012X7S2A224K085AE		
220111	2012	0.65±0.15	±20%	C2012X7S2A224M085AE		
470nF	2012	1.25 +0.25/-0.20	±10%	C2012X7S2A474K125AE		
470HF	2012	1.25 +0.25/-0.20	±20%	C2012X7S2A474M125AE		
1uF	2012	1.25 +0.25/-0.20	±10%	C2012X7S2A105K125AE		
Tui	2012	1.25 +0.25/-0.20	±20%	C2012X7S2A105M125AE		
2.2uF	3216	1.60 +0.30/-0.20-	±10%	C3216X7S2A225K160AE		
2.2ur	3210		±20%	C3216X7S2A225M160AE		
3.3uF	3225	2.00 +0.30/-0.20-	±10%	C3225X7S2A335K200AE		
3.5ui	3223	2.00 +0.30/-0.20	±20%	C3225X7S2A335M200AE		
		2.00 +0.30/-0.20	±10%	C3225X7S2A475K200AE		
4.7uF	3225		±20%	C3225X7S2A475M200AE		
4.7ur	3223	2.30 +0.30/-0.20	±10%		C3225X7S1H475K230AE	
		2.30 +0.30/-0.20	±20%		C3225X7S1H475M230AE	
	3225	2.50 ±0.30	±10%		C3225X7S1H106K250AE	
10uF	3223	2.30 ±0.30	±20%		C3225X7S1H106M250AE	
Tour	5750	2.30 +0.30/-0.20	±10%	C5750X7S2A106K230KE	·	
	3/50	2.30 +0.30/-0.20	±20%	C5750X7S2A106M230KE	·	·
22uF	7563	2.30 (2.50max.)	±20%		C7563X7S1H226M230LE	
100uF	7563	2.80 (3.00max.)	±20%			C7563X7S1C107M280LE



# **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X7T (-55 to +125°C, +22/-33%)

Capacitance	Size	Thickness	Capacitance	Catalog Number			
Oupdollarioo	OIZO	(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	
10 nF	2012	0.85 ± 0.15	± 10%		C2012X7T2W103K085AE		
	2012	0.00 ± 0.10	± 20%		C2012X7T2W103M085AE		
22 nF	2012	1.25 +0.25/-0.20	± 10%		C2012X7T2W223K125AE		
22 111	2012	1.23 +0.23/-0.20	± 20%		C2012X7T2W223M125AE		
	2012	1.25 +0.25/-0.20	± 10%		C2012X7T2W473K125AE	C2012X7T2E473K125AE	
47 nF —	2012	1.25 +0.25/-0.20	± 20%		C2012X7T2W473M125AE	C2012X7T2E473M125AE	
47 111	3216	1.60 +0.30/-0.20	± 10%	C3216X7T2J473K160AE			
	3210	1.00 +0.30/-0.20	± 20%	C3216X7T2J473M160AE			
	2012	1 05 .0 05/ 0 00.	±10%			C2012X7T2E104K125AE	
	2012	1.25 +0.25/-0.20	±20%			C2012X7T2E104M125AE	
100 nF	3216	1.60 +0.30/-0.20	±10%		C3216X7T2W104K160AE		
100 HF	3216	1.00 +0.30/-0.20	±20%		C3216X7T2W104M160AE		
_	3225	1.60 +0.30/-0.20	±10%	C3225X7T2J104K160AE			
			±20%	C3225X7T2J104K160AE			
150nF	3225	2.00 +0.30/-0.20-	±10%	C3225X7T2J154K200AE			
ISUNF	3225		±20%	C3225X7T2J154M200AE			
	3216	1.60 +0.30/-0.20-	±10%			C3216X7T2E224K160AE	
			±20%			C3216X7T2E224M160AE	
220 nF	3225	2.00 +0.30/-0.20-	±10%		C3225X7T2W224K200AE		
220 NF			±20%		C3225X7T2W224M200AE		
_	4532	2 2.00 +0.30/-0.20	±10%	C4532X7T2J224K200KE			
			±20%	C4532X7T2J224M200KE			
000-F	2005		2.00 +0.30/-0.20	±10%			C3225X7T2E334K200AE
330nF	3225	2.00 +0.30/-0.20	±20%			C3225X7T2E334M200AE	
	4500	0.00 .0.00/ 0.00	±10%		C4532X7T2W474K230KE		
470 - 5	4532	2.30 +0.30/-0.20	±20%		C4532X7T2W474M230KE		
470 nF —	5750	0.00 .0.00/ 0.00	±10%	C5750X7T2J474K250KE			
	5750	2.30 +0.30/-0.20	±20%	C5750X7T2J474M250KE			
	4500	0.50 0.00	± 10%			C4532X7T2E105K250KE	
	4532	$2.50 \pm 0.30$	± 20%			C4532X7T2E105M250KE	
1 μF —	F7F6	0.50 . 0.62	± 10%		C5750X7T2W105K250KE		
	5750	$2.50 \pm 0.30$	± 20%		C5750X7T2W105M250KE		
		0.50 0.55	± 10%			C5750X7T2E225K250KE	
2.2 uF	5750	$2.50 \pm 0.30$	± 20%			C5750X7T2E225M250KE	
-							



# **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to  $\pm 150^{\circ}$ C,  $\pm 15\%$ )

Capacitance	Size	Thickness	Capacitance	Catalog Number					
		(mm)	Tolerance	Rated Voltage Edc: 100V	Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V		
150pF	1005	0.50+0.10/-0.05	±10%	C1005X8R2A151K050BE	C1005X8R1H151K050BE				
			±20%	C1005X8R2A151M050BE	C1005X8R1H151M050BE				
220pF	1005	0.50+0.10/-0.05	±10% ±20%	C1005X8R2A221K050BE	C1005X8R1H221K050BE				
			±20%	C1005X8R2A221M050BE C1005X8R2A331K050BE	C1005X8R1H221M050BE C1005X8R1H331K050BE				
330pF	1005	0.50+0.10/-0.05	±10%	C1005X8R2A331M050BE	C1005X8R1H331M050BE				
			±10%	C1005X8R2A471K050BE	C1005X8R1H471K050BE				
470pF	1005	0.50+0.10/-0.05	±20%	C1005X8R2A471M050BE	C1005X8R1H471M050BE				
			±10%	C1005X8R2A681K050BE	C1005X8R1H681K050BE				
680pF	1005	0.50+0.10/-0.05	±20%	C1005X8R2A681M050BE	C1005X8R1H681M050BE				
			+10%	C1005X8R2A102K050BE	C1005X8R1H102K050BE				
	1005	0.50+0.10/-0.05	±20%	C1005X8R2A102M050BE	C1005X8R1H102M050BE				
1nF —			+10%	C1608X8R2A102K080AE	C1608X8R1H102K080AE				
	1608	0.80+0.15/-0.10	±20%	C1608X8R2A102M080AE	C1608X8R1H102M080AE				
			+10%	C1005X8R2A152K050BE	C1005X8R1H152K050BE				
	1005	0.50+0.10/-0.05	±20%	C1005X8R2A152M050BE	C1005X8R1H152M050BE				
1.5nF —			+10%	C1608X8R2A152K080AE	C1608X8R1H152K080AE				
	1608	0.80+0.15/-0.10	±20%	C1608X8R2A152M080AE	C1608X8R1H152M080AE				
			+10%	C1005X8R2A222K050BE	C1005X8R1H222K050BE				
	1005	0.50+0.10/-0.05	±20%	C1005X8R2A222M050BE	C1005X8R1H222M050BE				
2.2nF —			+10%	C1608X8R2A222K080AE	C1608X8R1H222K080AE				
	1608	0.80+0.15/-0.10	±20%	C1608X8R2A222M080AE	C1608X8R1H222M080AE				
-			+10%	C1005X8R2A332K050BE	C1005X8R1H332K050BE				
	1005	0.50+0.10/-0.05	±20%	C1005X8R2A332M050BE	C1005X8R1H332M050BE				
3.3nF —			+10%	C1608X8R2A332K080AE	C1608X8R1H332K080AE				
	1608	0.80+0.15/-0.10	±20%	C1608X8R2A332M080AE	C1608X8R1H332M080AE				
	1005 1608		+10%		C1005X8R1H472K050BE				
			±20%		C1005X8R1H472M050BE				
4.7nF —			+10%	C1608X8R2A472K080AE	C1608X8R1H472K080AE				
			±20%	C1608X8R2A472M080AE	C1608X8R1H472M080AE				
	1005 1608		+10%		C1005X8R1H682K050BE	C1005X8R1E682K050BE			
			±20%		C1005X8R1H682M050BE	C1005X8R1E682M050BE			
6.8nF —			+10%	C1608X8R2A682K080AE	C1608X8R1H682K080AE				
		1608 0.80+0.15	0.80+0.15/-0.10	±20%	C1608X8R2A682M080AE	C1608X8R1H682M080AE			
	1005	- 050 040/005	+10%		C1005X8R1H103K050BE	C1005X8R1E103K050BE			
		0.50+0.10/-0.05	±20%		C1005X8R1H103M050BE	C1005X8R1E103M050BE			
10nF —			+10%	C1608X8R2A103K080AE	C1608X8R1H103K080AE				
		3 0.80+0.15/-0.10	±20%	C1608X8R2A103M080AE	C1608X8R1H103M080AE				
			+10%			C1005X8R1E153K050BE			
45 -	1005	0.50+0.10/-0.05	±20%			C1005X8R1E153M050BE			
15nF —	46	0.00 6 1=1= ::	+10%	C1608X8R2A153K080AE	C1608X8R1H153K080AE				
	1608	1608	0.80+0.15/-0.10	±20%	C1608X8R2A153M080AE	C1608X8R1H153M080AE			
		1005	1005	0.50.6.151.5.1	+10%			C1005X8R1E223K050BE	
	1005	0.50+0.10/-0.05	±20%			C1005X8R1E223M050BE			
	4000	0.00.0.15/0.15	+10%	C1608X8R2A223K080AE	C1608X8R1H223K080AE				
22nF	1608	0.80+0.15/-0.10	±20%	C1608X8R2A223M080AE	C1608X8R1H223M080AE				
_	0010	1.05.0.05/0.00	+10%	C2012X8R2A223K125AE					
	2012	1.25+0.25/-0.20	±20%	C2012X8R2A223M125AE					
	4005	0.50.040/0.05	±10%				C1005X8R1C333K050BE		
	1005	0.50+0.10/-0.05	±20%				C1005X8R1C333M050BE		
33nF	1608	0.00.045/0.40	+10%		C1608X8R1H333K080AE				
		1608 0.80+0.15/-0.10	±20%		C1608X8R1H333M080AE				
_		4.05.0.05/0.55	+10%	C2012X8R2A333K125AE					
	2012	1.25+0.25/-0.20	±20%	C2012X8R2A333M125AE					
	400=	0.50.0.10/0.55	+10%				C1005X8R1C473K050BE		
	1005	0.50+0.10/-0.05	±20%				C1005X8R1C473M050BE		
47. 5	4000	0.00.0.15/0.15	+10%		C1608X8R1H473K080AE				
47nF	1608	0.80+0.15/-0.10	±20%		C1608X8R1H473M080AE				
_	0010	4.05.0.05/0.55	+10%	C2012X8R2A473K125AE					
	2012	1.25+0.25/-0.20	±20%	C2012X8R2A473M125AE					
-									



# **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to  $\pm 150^{\circ}$ C,  $\pm 15\%$ )

Capacitance	Size	Thickness	Capacitance	Catalog Number					
Capacitario	OIZO	(mm)	Tolerance	Rated Voltage Edc: 100V	Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V		
	1608	0.80+0.15/-0.10	±10%		C1608X8R1H683K080AE	C1608X8R1E683K080AE			
68nF —			±20%		C1608X8R1H683M080AE	C1608X8R1E683M080AE			
	2012	1.25+0.25/-0.20	±10%	C2012X8R2A683K125AE	C2012X8R1H683K125AE				
-			±20%	C2012X8R2A683M125AE	C2012X8R1H683M125AE C1608X8R1H104K080AE	C1000V0D1E104V000AE			
	1608	0.80+0.15/-0.10	±10%		C1608X8R1H104K080AE	C1608X8R1E104K080AE C1608X8R1E104M080AE			
_			±20% ±10%		C2012X8R1H104K125AE	C1000X0N1E104WU00VAE			
100nF	2012	1.25+0.25/-0.20	±20%		C2012X8R1H104M125AE				
_			±10%	C3216X8R2A104K115AE	OLO 12XOTTITTO HITLORIC				
	3216	1.15±0.15	±20%	C3216X8R2A104M115AE					
-			+10%			C1608X8R1E154K080AE			
	1608	0.80+0.15/-0.10	±20%			C1608X8R1E154M080AE			
<del></del>		0.05.0.15	±10%			C2012X8R1E154K085AE			
150×5	0010	0.85±0.15	±20%			C2012X8R1E154M085AE			
150nF	2012	1.25+0.25/-0.20	±10%		C2012X8R1H154K125AE				
_		1.25+0.25/-0.20	±20%		C2012X8R1H154M125AE				
	3216	1.60+0.30/-0.20	±10%	C3216X8R2A154K160AE					
	0210	1.0010.00/ 0.20	±20%	C3216X8R2A154M160AE					
	1608	0.80+0.15/-0.10	±10%			C1608X8R1E224K080AE			
_		0.0010110/ 0110	±20%			C1608X8R1E224M080AE			
220nF	2012	1.25+0.25/-0.20	±10%		C2012X8R1H224K125AE	C2012X8R1E224K125AE			
_			±20%		C2012X8R1H224M125AE	C2012X8R1E224M125AE			
	3216	1.60+0.30/-0.20	±10%	C3216X8R2A224K160AE					
			±20%	C3216X8R2A224M160AE			04000\/0D40004 /0004E		
	1608	2 1.25+0.25/-0.20	±10%				C1608X8R1C334K080AE		
_			±20%			C2012X8R1E334K125AE	C1608X8R1C334M080AE		
330nF	2012		±10% ±20%			C2012X8R1E334M125AE			
_			±20%	C3216X8R2A334K160AE	C3216X8R1H334K160AE	02012A0N1E334W123AE			
	3216		±20%	C3216X8R2A334M160AE	C3216X8R1H334M160AE				
			±10%	COLTOXOTILATOUTINTOUTIL	OOL TO KOTTITIOO TIVITOO KE		C1608X8R1C474K080AE		
	1608	1608 0.80+0.15/-0.10	±20%				C1608X8R1C474M080AE		
=			+10%			C2012X8R1E474K125AE			
	2012	1.25+0.25/-0.20	±20%			C2012X8R1E474M125AE			
470nF —		1.00.0.00/.0.00	±10%		C3216X8R1H474K160AE				
	3216	1.60+0.30/-0.20	±20%		C3216X8R1H474M160AE				
_	2225	3225 2.00+0.30/-0.20	±10%	C3225X8R2A474K200AE					
	3225	3225 2.00+0.30/	2.00+0.30/-0.20	±20%	C3225X8R2A474M200AE				
	2012	2012	2012	1.25+0.25/-0.20	±10%				C2012X8R1C684K125AE
_	2012	1.23+0.23/-0.20	±20%				C2012X8R1C684M125AE		
680nF	3216	1.60+0.30/-0.20	±10%		C3216X8R1H684K160AE				
_			±20%		C3216X8R1H684M160AE				
	3225	2.50±0.30	±10%	C3225X8R2A684K250AE					
	-		±20%	C3225X8R2A684M250AE			00040\/0D404051/4054		
	2012	1.25+0.25/-0.20	±10%				C2012X8R1C105K125AE		
1uF -			±20%		00040\00041\405\40045	00040\/0D4E405\/4004E	C2012X8R1C105M125AE		
	3216	1.60+0.30/-0.20	±10%		C3216X8R1H105K160AE	C3216X8R1E105K160AE C3216X8R1E105M160AE			
			±20% ±10%		C3216X8R1H105M160AE	C3216X8R1E105W160AE			
1.5uF	3216	1.60+0.30/-0.20				C3216X8R1E155M160AE			
			±20% ±10%			C3216X8R1E225K160AE			
2.2uF	3216	1.60+0.30/-0.20	±20%			C3216X8R1E225M160AE			
			+10%			JOE TO A GITTLE ZON TO OAL	C3216X8R1C335K160AE		
3.3uF	3216	1.60+0.30/-0.20	±20%				C3216X8R1C335M160AE		
			+10%				C3216X8R1C475K160AE		
	3216	1.60+0.30/-0.20	±20%				C3216X8R1C475M160AE		
4.7uF —	0005	0.50.000	±10%			C3225X8R1E475K250AE			
	3225	2.50±0.30	±20%			C3225X8R1E475M250AE	-		
							_		



# **Capacitance Range Table**

#### Class 2 (Temperature Stable)

Temperature Characteristics: X8L (-55 to +150°C, +15/-40%)

Capacitance	Size	Thickness	Capacitance	Catalog Number	
Оараспанос	Oize	(mm)	Tolerance	Rated Voltage Edc: 50V	
330nF	2012	1.25+0.25/-0.20	± 10%	C2012X8L1H334K125AE	
33011		1.25+0.25/-0.20	± 20%	C2012X8L1H334M125AE	