

# MULTILAYER CERAMIC CHIP CAPACITORS

## C series, C2012 [EIA CC0805] type

### FEATURES

- High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- A monolithic structure ensures superior mechanical strength and reliability.
- High-accuracy automatic mounting is facilitated through the maintenance of very precise dimensional tolerances.
- Composed of only ceramics and metals, these capacitors provide extremely dependable performance, exhibiting virtually no degradation even when subjected to temperature extremes.
- Low stray capacitance ensures high conformity with nominal values, thereby simplifying the circuit design process.
- Low residual inductance assures superior frequency characteristics.

### PRODUCT IDENTIFICATION

C	1005	C0G	1E	100	D	X	XXX
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(1) Series name

(2) Dimensions L×W

1005	1.0×0.5mm
1608	1.6×0.8mm
2012	2.0×1.25mm
3216	3.2×1.6mm

(3) Capacitance temperature characteristics

#### Class 1 (Temperature compensation)

Temperature characteristics	Temperature coefficient	Temperature range
C0G	0±30ppm/°C	-55 to +125°C
SL	+350 to -1000ppm/°C	+20 to +85°C

- Please contact us for order.

#### Class 2 (Temperature stable and general purpose)

Temperature characteristics	Capacitance change	Temperature range
X7R	±15%	-55 to +125°C
X5R	±15%	-55 to +85°C
Z5U	+22, -56%	+10 to +85°C
Y5V	+22, -82%	-30 to +85°C
B	±10%	-25 to +85°C
D	+20, -30%	-25 to +85°C
F	+30, -80%	-25 to +85°C

(4) Rated voltage Edc

0J	6.3V
1A	10V
1C	16V
1E	25V
1H	50V
1N	75V
3F	3kV

### CAPACITANCE RANGE AND RATED VOLTAGE

Type	Capacitance range	Rated voltage Edc
C1005	0.5 to 100000pF	6.3 to 50V
C1608	0.5pF to 1μF	6.3 to 50V
C2012	0.5pF to 2.2μF	6.3 to 50V
C3216	1100pF to 10μF	6.3 to 50V

(5) Nominal capacitance

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.

010	1pF
100	10pF
102	1000pF
0R5	0.5pF
3R5	3.5pF

(6) Capacitance tolerance

Symbol	Tolerance	Applicable capacitance range
C	±0.25pF	10pF or less
D	±0.5pF	
F	±1pF	
J	±5%	Over 10pF
K	±10%	
M	±20%	
Z	+80, -20%	

(7) Packaging style

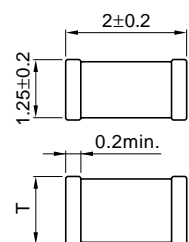
T	Taping (reel)
B	Bulk

(8) TDK internal code

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## SHAPES AND DIMENSIONS



Dimensions in mm

T(Thickness)
0.6±0.15
0.85±0.15
1.25±0.2



## CAPACITANCE RANGES

### CLASS 1 (TEMPERATURE COMPENSATION)

#### TEMPERATURE CHARACTERISTICS:

C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
0.5	±0.25pF	0.6±0.15	C2012C0G1H0R5C
0.75	±0.25pF	0.6±0.15	C2012C0G1HR75C
1	±0.25pF	0.6±0.15	C2012C0G1H010C
	±0.5pF	0.6±0.15	C2012C0G1H010D
1.5	±0.25pF	0.6±0.15	C2012C0G1H1R5C
2	±0.25pF	0.6±0.15	C2012C0G1H020C
	±0.5pF	0.6±0.15	C2012C0G1H020D
3	±0.25pF	0.6±0.15	C2012C0G1H030C
	±0.5pF	0.6±0.15	C2012C0G1H030D
4	±0.25pF	0.6±0.15	C2012C0G1H040C
	±0.5pF	0.6±0.15	C2012C0G1H040D
5	±0.25pF	0.6±0.15	C2012C0G1H050C
	±0.5pF	0.6±0.15	C2012C0G1H050D
6	±0.5pF	0.6±0.15	C2012C0G1H060D
	±1pF	0.6±0.15	C2012C0G1H060F
7	±0.5pF	0.6±0.15	C2012C0G1H070D
	±1pF	0.6±0.15	C2012C0G1H070F
8	±0.5pF	0.6±0.15	C2012C0G1H080D
	±1pF	0.6±0.15	C2012C0G1H080F
9	±0.5pF	0.6±0.15	C2012C0G1H090D
	±1pF	0.6±0.15	C2012C0G1H090F
10	±0.5pF	0.6±0.15	C2012C0G1H100D
	±1pF	0.6±0.15	C2012C0G1H100F
11	±5%	0.6±0.15	C2012C0G1H110J
	±5%	0.6±0.15	C2012C0G1H120J
12	±10%	0.6±0.15	C2012C0G1H120K
	±5%	0.6±0.15	C2012C0G1H130J
15	±5%	0.6±0.15	C2012C0G1H150J
	±10%	0.6±0.15	C2012C0G1H150K
16	±5%	0.6±0.15	C2012C0G1H160J
	±5%	0.6±0.15	C2012C0G1H180J
18	±10%	0.6±0.15	C2012C0G1H180K
	±5%	0.6±0.15	C2012C0G1H200J
22	±5%	0.6±0.15	C2012C0G1H220J
	±10%	0.6±0.15	C2012C0G1H220K
24	±5%	0.6±0.15	C2012C0G1H240J

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
27	±5%	0.6±0.15	C2012C0G1H270J
	±10%	0.6±0.15	C2012C0G1H270K
30	±5%	0.6±0.15	C2012C0G1H300J
33	±5%	0.6±0.15	C2012C0G1H330J
	±10%	0.6±0.15	C2012C0G1H330K
36	±5%	0.6±0.15	C2012C0G1H360J
39	±5%	0.6±0.15	C2012C0G1H390J
	±10%	0.6±0.15	C2012C0G1H390K
43	±5%	0.6±0.15	C2012C0G1H430J
47	±5%	0.6±0.15	C2012C0G1H470J
	±10%	0.6±0.15	C2012C0G1H470K
51	±5%	0.6±0.15	C2012C0G1H510J
56	±5%	0.6±0.15	C2012C0G1H560J
	±10%	0.6±0.15	C2012C0G1H560K
62	±5%	0.6±0.15	C2012C0G1H620J
68	±5%	0.6±0.15	C2012C0G1H680J
	±10%	0.6±0.15	C2012C0G1H680K
75	±5%	0.6±0.15	C2012C0G1H750J
82	±5%	0.6±0.15	C2012C0G1H820J
	±10%	0.6±0.15	C2012C0G1H820K
91	±5%	0.6±0.15	C2012C0G1H910J
100	±5%	0.6±0.15	C2012C0G1H101J
	±10%	0.6±0.15	C2012C0G1H101K
110	±5%	0.6±0.15	C2012C0G1H111J
120	±5%	0.6±0.15	C2012C0G1H121J
	±10%	0.6±0.15	C2012C0G1H121K
130	±5%	0.6±0.15	C2012C0G1H131J
150	±5%	0.6±0.15	C2012C0G1H151J
	±10%	0.6±0.15	C2012C0G1H151K
160	±5%	0.6±0.15	C2012C0G1H161J
180	±5%	0.6±0.15	C2012C0G1H181J
	±10%	0.6±0.15	C2012C0G1H181K
200	±5%	0.6±0.15	C2012C0G1H201J
220	±5%	0.6±0.15	C2012C0G1H221J
	±10%	0.6±0.15	C2012C0G1H221K
240	±5%	0.6±0.15	C2012C0G1H241J

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## CAPACITANCE RANGES

### CLASS 1 (TEMPERATURE COMPENSATION)

#### TEMPERATURE CHARACTERISTICS:

##### C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
270	±5%	0.6±0.15	C2012C0G1H271J
	±10%	0.6±0.15	C2012C0G1H271K
300	±5%	0.6±0.15	C2012C0G1H301J
330	±5%	0.6±0.15	C2012C0G1H331J
	±10%	0.6±0.15	C2012C0G1H331K
360	±5%	0.6±0.15	C2012C0G1H361J
390	±5%	0.6±0.15	C2012C0G1H391J
	±10%	0.6±0.15	C2012C0G1H391K
430	±5%	0.85±0.15	C2012C0G1H431J
470	±5%	0.85±0.15	C2012C0G1H471J
	±10%	0.85±0.15	C2012C0G1H471K
510	±5%	0.85±0.15	C2012C0G1H511J
560	±5%	0.85±0.15	C2012C0G1H561J
	±10%	0.85±0.15	C2012C0G1H561K
620	±5%	0.85±0.15	C2012C0G1H621J
680	±5%	0.85±0.15	C2012C0G1H681J
	±10%	0.85±0.15	C2012C0G1H681K
750	±5%	1.25±0.2	C2012C0G1H751J
820	±5%	1.25±0.2	C2012C0G1H821J
	±10%	1.25±0.2	C2012C0G1H821K
910	±5%	1.25±0.2	C2012C0G1H911J
1000	±5%	1.25±0.2	C2012C0G1H102J
	±10%	1.25±0.2	C2012C0G1H102K
1100	±5%	1.25±0.2	C2012C0G1H112J
1200	±5%	1.25±0.2	C2012C0G1H122J
	±10%	1.25±0.2	C2012C0G1H122K
1300	±5%	1.25±0.2	C2012C0G1H132J
1500	±5%	1.25±0.2	C2012C0G1H152J
	±10%	1.25±0.2	C2012C0G1H152K
1600	±5%	1.25±0.2	C2012C0G1H162J
1800	±5%	1.25±0.2	C2012C0G1H182J
	±10%	1.25±0.2	C2012C0G1H182K
2000	±5%	1.25±0.2	C2012C0G1H202J

#### TEMPERATURE CHARACTERISTICS:

##### SL(+350 to -1000ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
0.5	±0.25pF	0.6±0.15	C2012SL1H0R5C
0.75	±0.25pF	0.6±0.15	C2012SL1HR75C
1	±0.25pF	0.6±0.15	C2012SL1H010C
	±0.5pF	0.6±0.15	C2012SL1H010D
1.5	±0.25pF	0.6±0.15	C2012SL1H1R5C
2	±0.25pF	0.6±0.15	C2012SL1H020C
	±0.5pF	0.6±0.15	C2012SL1H020D
3	±0.25pF	0.6±0.15	C2012SL1H030C
	±0.5pF	0.6±0.15	C2012SL1H030D
4	±0.25pF	0.6±0.15	C2012SL1H040C
	±0.5pF	0.6±0.15	C2012SL1H040D
5	±0.25pF	0.6±0.15	C2012SL1H050C
	±0.5pF	0.6±0.15	C2012SL1H050D
6	±0.5pF	0.6±0.15	C2012SL1H060D
	±1pF	0.6±0.15	C2012SL1H060F
7	±0.5pF	0.6±0.15	C2012SL1H070D
	±1pF	0.6±0.15	C2012SL1H070F
8	±0.5pF	0.6±0.15	C2012SL1H080D
	±1pF	0.6±0.15	C2012SL1H080F
9	±0.5pF	0.6±0.15	C2012SL1H090D
	±1pF	0.6±0.15	C2012SL1H090F
10	±0.5pF	0.6±0.15	C2012SL1H100D
	±1pF	0.6±0.15	C2012SL1H100F
11	±5%	0.6±0.15	C2012SL1H110J
12	±5%	0.6±0.15	C2012SL1H120J
	±10%	0.6±0.15	C2012SL1H120K
13	±5%	0.6±0.15	C2012SL1H130J
15	±5%	0.6±0.15	C2012SL1H150J
	±10%	0.6±0.15	C2012SL1H150K
16	±5%	0.6±0.15	C2012SL1H160J
18	±5%	0.6±0.15	C2012SL1H180J
	±10%	0.6±0.15	C2012SL1H180K
20	±5%	0.6±0.15	C2012SL1H200J
	±5%	0.6±0.15	C2012SL1H220J
22	±10%	0.6±0.15	C2012SL1H220K
24	±5%	0.6±0.15	C2012SL1H240J
27	±5%	0.6±0.15	C2012SL1H270J
	±10%	0.6±0.15	C2012SL1H270K
30	±5%	0.6±0.15	C2012SL1H300J
33	±5%	0.6±0.15	C2012SL1H330J
	±10%	0.6±0.15	C2012SL1H330K
36	±5%	0.6±0.15	C2012SL1H360J
39	±5%	0.6±0.15	C2012SL1H390J
	±10%	0.6±0.15	C2012SL1H390K
43	±5%	0.6±0.15	C2012SL1H430J
47	±5%	0.6±0.15	C2012SL1H470J
	±10%	0.6±0.15	C2012SL1H470K
51	±5%	0.6±0.15	C2012SL1H510J
56	±5%	0.6±0.15	C2012SL1H560J
	±10%	0.6±0.15	C2012SL1H560K
62	±5%	0.6±0.15	C2012SL1H620J

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## CAPACITANCE RANGES

### CLASS 1 (TEMPERATURE COMPENSATION)

#### TEMPERATURE CHARACTERISTICS:

SL(+350 to -1000ppm/°C)

RATED VOLTAGE E<sub>dc</sub>: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
68	±5%	0.6±0.15	C2012SL1H680J
	±10%	0.6±0.15	C2012SL1H680K
75	±5%	0.6±0.15	C2012SL1H750J
82	±5%	0.6±0.15	C2012SL1H820J
	±10%	0.6±0.15	C2012SL1H820K
91	±5%	0.6±0.15	C2012SL1H910J
100	±5%	0.6±0.15	C2012SL1H101J
	±10%	0.6±0.15	C2012SL1H101K
110	±5%	0.6±0.15	C2012SL1H111J
120	±5%	0.6±0.15	C2012SL1H121J
	±10%	0.6±0.15	C2012SL1H121K
130	±5%	0.6±0.15	C2012SL1H131J
150	±5%	0.6±0.15	C2012SL1H151J
	±10%	0.6±0.15	C2012SL1H151K
160	±5%	0.6±0.15	C2012SL1H161J
180	±5%	0.6±0.15	C2012SL1H181J
	±10%	0.6±0.15	C2012SL1H181K
200	±5%	0.6±0.15	C2012SL1H201J
220	±5%	0.6±0.15	C2012SL1H221J
	±10%	0.6±0.15	C2012SL1H221K
240	±5%	0.6±0.15	C2012SL1H241J
270	±5%	0.6±0.15	C2012SL1H271J
	±10%	0.6±0.15	C2012SL1H271K
300	±5%	0.6±0.15	C2012SL1H301J
330	±5%	0.6±0.15	C2012SL1H331J
	±10%	0.6±0.15	C2012SL1H331K
360	±5%	0.6±0.15	C2012SL1H361J
390	±5%	0.6±0.15	C2012SL1H391J
	±10%	0.6±0.15	C2012SL1H391K
430	±5%	0.6±0.15	C2012SL1H431J
470	±5%	0.6±0.15	C2012SL1H471J
	±10%	0.6±0.15	C2012SL1H471K
510	±5%	0.6±0.15	C2012SL1H511J
560	±5%	0.6±0.15	C2012SL1H561J
	±10%	0.6±0.15	C2012SL1H561K
620	±5%	0.6±0.15	C2012SL1H621J
680	±5%	0.6±0.15	C2012SL1H681J
	±10%	0.6±0.15	C2012SL1H681K
750	±5%	0.6±0.15	C2012SL1H751J
820	±5%	0.6±0.15	C2012SL1H821J
	±10%	0.6±0.15	C2012SL1H821K
910	±5%	0.6±0.15	C2012SL1H911J
1000	±5%	0.6±0.15	C2012SL1H102J
	±10%	0.6±0.15	C2012SL1H102K
1100	±5%	0.6±0.15	C2012SL1H112J
1200	±5%	0.6±0.15	C2012SL1H122J
	±10%	0.6±0.15	C2012SL1H122K
1300	±5%	0.85±0.15	C2012SL1H132J
1500	±5%	0.85±0.15	C2012SL1H152J
	±10%	0.85±0.15	C2012SL1H152K
1600	±5%	0.85±0.15	C2012SL1H162J

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
1800	±5%	0.85±0.15	C2012SL1H182J
	±10%	0.85±0.15	C2012SL1H182K
2000	±5%	1.25±0.2	C2012SL1H202J
2200	±5%	1.25±0.2	C2012SL1H222J
	±10%	1.25±0.2	C2012SL1H222K
2400	±5%	1.25±0.2	C2012SL1H242J
2700	±5%	1.25±0.2	C2012SL1H272J
	±10%	1.25±0.2	C2012SL1H272K

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## CAPACITANCE RANGES

### CLASS 2 (TEMPERATURE STABLE)

#### TEMPERATURE CHARACTERISTICS: X7R ( $\pm 15\%$ )

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
470	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H471K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H471M
560	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H561K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H561M
680	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H681K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H681M
820	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H821K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H821M
1000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H102K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H102M
1200	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H122K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H122M
1500	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H152K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H152M
1800	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H182K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H182M
2200	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H222K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H222M
2700	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H272K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H272M
3300	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H332K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H332M
3900	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H392K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H392M
4700	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H472K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H472M
5600	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H562K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H562M
6800	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H682K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H682M
8200	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H822K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H822M
10000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H103K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H103M
12000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H123K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H123M
15000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H153K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H153M
18000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H183K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H183M
22000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1H223K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1H223M
27000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1H273K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1H273M
33000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1H333K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1H333M
39000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1H393K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1H393M
47000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1H473K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1H473M
56000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1H563K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1H563M
68000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1H683K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1H683M
82000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1H823K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1H823M
100000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1H104K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1H104M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
27000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1E273K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1E273M
33000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1E333K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1E333M
39000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1E393K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1E393M
47000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1E473K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1E473M
56000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1E563K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1E563M
68000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1E683K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1E683M
82000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E823K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E823M
100000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E104K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E104M
120000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E124K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E124M
150000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E154K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E154M
180000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E184K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E184M
220000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1E224K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1E224M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
47000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1C473K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1C473M
56000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1C563K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1C563M
68000	$\pm 10\%$	0.6 $\pm$ 0.15	C2012X7R1C683K
	$\pm 20\%$	0.6 $\pm$ 0.15	C2012X7R1C683M
82000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1C823K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1C823M
100000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1C104K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1C104M
120000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X7R1C124K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X7R1C124M
150000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C154K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C154M
180000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C184K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C184M
220000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C224K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C224M
270000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C274K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C274M
330000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C334K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C334M
390000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C394K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C394M
470000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X7R1C474K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X7R1C474M

# MULTILAYER CERAMIC CHIP CAPACITORS

C series, C2012 [EIA CC0805] type

## CAPACITANCE RANGES

### CLASS 2 (TEMPERATURE STABLE)

#### TEMPERATURE CHARACTERISTICS: X5R( $\pm 15\%$ )

##### RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
560000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X5R1A564K
680000	$\pm 10\%$	0.85 $\pm$ 0.15	C2012X5R1A684K
	$\pm 20\%$	0.85 $\pm$ 0.15	C2012X5R1A684M
820000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X5R1A824K
1000000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X5R1A105K
[1 $\mu$ F]	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X5R1A105M

##### RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
1500000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X5R0J155K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X5R0J155M
2200000	$\pm 10\%$	1.25 $\pm$ 0.2	C2012X5R0J225K
	$\pm 20\%$	1.25 $\pm$ 0.2	C2012X5R0J225M

#### TEMPERATURE CHARACTERISTICS: Y5V(+22, -82%)

##### RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
4700	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H472Z
6800	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H682Z
10000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H103Z
15000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H153Z
22000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H223Z
33000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H333Z
47000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H473Z
68000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H683Z
100000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H104Z
[0.1 $\mu$ F]	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1H104Z
150000	+80, -20%	0.85 $\pm$ 0.15	C2012Y5V1H154Z
220000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1H224Z
330000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1H334Z

##### RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
150000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1E154Z
220000	+80, -20%	0.85 $\pm$ 0.15	C2012Y5V1E224Z
330000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1E334Z
470000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1E474Z

##### RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness (mm)	Part No.
220000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1C224Z
330000	+80, -20%	0.6 $\pm$ 0.15	C2012Y5V1C334Z
470000	+80, -20%	0.85 $\pm$ 0.15	C2012Y5V1C474Z
680000	+80, -20%	0.85 $\pm$ 0.15	C2012Y5V1C684Z
1000000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1C105Z
[1 $\mu$ F]	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1C105Z
1500000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1C155Z
2200000	+80, -20%	1.25 $\pm$ 0.2	C2012Y5V1C225Z