

REMINDERS

Please read this before using the product.

SAFETY REMINDERS

REMINDERS

1. If you intend to use a product listed in this catalog for a purpose that may cause loss of life or other damage, you must contact our company's sales window.
2. We may modify products or discontinue production of a product listed in this catalog without prior notification.
3. We provide "Delivery Specification" that explain precautions for the specifications and safety of each product listed in this catalog. We strongly recommend that you exchange these delivery specifications with customers that use one of these products.
4. If you plan to export a product listed in this catalog, keep in mind that it may be a restricted item according to the "Foreign Exchange and Foreign Trade Control Law". In such cases, it is necessary to acquire export permission in harmony with this law.
5. Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.
6. We are not responsible for problems that occur related to the intellectual property rights or other rights of our company or a third party when you use a product listed in this catalog. We do not grant license of these rights.
7. This catalog only applies to products purchased through our company or one of our company's official agencies. This catalog does not apply to products that are purchased through other third parties.
8. The descriptions in this catalog apply as of October 2007.

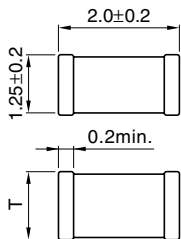
C Series C2012 (EIA CC0805) Type

Conformity to RoHS Directive

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.
- Because electrostatic capacity has been obtained up to the electrolytic capacitor range, these capacitors offer long service life and are optimally suited for power supply designs that require high levels of reliability.
- Owing to their low ESR and excellent frequency characteristics, these products are optimally suited for high frequency and high-density type power supplies.

SHAPES AND DIMENSIONS



Dimensions in mm



PRODUCT IDENTIFICATION

C 2012 CH 1H 103 J □
(1) (2) (3) (4) (5) (6) (7)

(1) Series name

(2) Dimensions L×W

2012	2.0×1.25mm
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(3) Capacitance temperature characteristics

Class 1 (Temperature compensation)

Temperature characteristics	Capacitance change	Temperature range
CH	0±60ppm/°C	-25 to +85°C
C0G	0±30ppm/°C	-55 to +125°C

Class 2 (Temperature stable and general purpose)

Temperature characteristics	Capacitance change	Temperature range
JB	±10%	-25 to +85°C
JF	+30, -80%	-25 to +85°C
X7R	±15%	-55 to +125°C
X5R	±15%	-55 to +85°C
Y5V	+22, -82%	-30 to +85°C

(4) Rated voltage E_{dc}

0J	6.3V
1A	10V
1C	16V
1E	25V
1H	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.

010	1pF
100	10pF
102	1,000pF

(6) Capacitance tolerance

J	±5%
K	±10%
M	±20%
Z	+80, -20%

(7) Packaging style

T	Taping (reel)
B	Bulk

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.
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CAPACITANCE RANGES: CLASS 1 (TEMPERATURE COMPENSATION)**TEMPERATURE CHARACTERISTICS: CH(0±60ppm/°C), C0G(0±30ppm/°C)**RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: CH	Temperature characteristics: C0G
3,300	±5%	0.60±0.10	C2012CH1H332J	C2012C0G1H332J
4,700	±5%	0.85±0.10	C2012CH1H472J	C2012C0G1H472J
6,800	±5%	1.25±0.10	C2012CH1H682J	C2012C0G1H682J
10,000	±5%	1.25±0.10	C2012CH1H103J	C2012C0G1H103J

CAPACITANCE RANGES: CLASS 2**TEMPERATURE CHARACTERISTICS: JB(±10%), X5R/X7R(±15%)**RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
150,000	±10%	1.25±0.10	C2012JB1H154K	C2012X5R1H154K	C2012X7R1H154K
	±20%	1.25±0.10	C2012JB1H154M	C2012X5R1H154M	C2012X7R1H154M
220,000	±10%	1.25±0.10	C2012JB1H224K	C2012X5R1H224K	C2012X7R1H224K
	±20%	1.25±0.10	C2012JB1H224M	C2012X5R1H224M	C2012X7R1H224M
330,000	±10%	1.25±0.10	C2012JB1H334K	C2012X5R1H334K	C2012X7R1H334K
	±20%	1.25±0.10	C2012JB1H334M	C2012X5R1H334M	C2012X7R1H334M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
470,000	±10%	1.25±0.10	C2012JB1E474K	C2012X5R1E474K	C2012X7R1E474K
	±20%	1.25±0.10	C2012JB1E474M	C2012X5R1E474M	C2012X7R1E474M
680,000	±10%	1.25±0.10	C2012JB1E684K	C2012X5R1E684K	C2012X7R1E684K
	±20%	1.25±0.10	C2012JB1E684M	C2012X5R1E684M	C2012X7R1E684M
1,000,000	±10%	1.25±0.10	C2012JB1E105K	C2012X5R1E105K	C2012X7R1E105K
	±20%	1.25±0.10	C2012JB1E105M	C2012X5R1E105M	C2012X7R1E105M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
330,000	±10%	0.85±0.10	C2012JB1C334K	C2012X5R1C334K	C2012X7R1C334K
	±20%	0.85±0.10	C2012JB1C334M	C2012X5R1C334M	C2012X7R1C334M
1,500,000	±10%	1.25±0.10	C2012JB1C155K	C2012X5R1C155K	C2012X7R1C155K
	±20%	1.25±0.10	C2012JB1C155M	C2012X5R1C155M	C2012X7R1C155M
2,200,000	±10%	1.25±0.10	C2012JB1C225K	C2012X5R1C225K	C2012X7R1C225K
	±20%	1.25±0.10	C2012JB1C225M	C2012X5R1C225M	C2012X7R1C225M

TEMPERATURE CHARACTERISTICS: JB(±10%), X5R(±15%)RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
150,000	±10%	0.85±0.10	C2012JB1H154K	C2012X5R1H154K
	±20%	0.85±0.10	C2012JB1H154M	C2012X5R1H154M
220,000	±10%	0.85+0.15,-0.10	C2012JB1H224K	C2012X5R1H224K
	±20%	0.85+0.15,-0.10	C2012JB1H224M	C2012X5R1H224M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
150,000	±10%	0.6±0.10	C2012JB1E154K	C2012X5R1E154K
	±20%	0.6±0.10	C2012JB1E154M	C2012X5R1E154M
220,000	±10%	0.6±0.10	C2012JB1E224K	C2012X5R1E224K
	±20%	0.6±0.10	C2012JB1E224M	C2012X5R1E224M
330,000	±10%	0.8+0.15,-0.10	C2012JB1E334K	C2012X5R1E334K
	±20%	0.8+0.15,-0.10	C2012JB1E334M	C2012X5R1E334M
470,000	±10%	0.8+0.15,-0.10	C2012JB1E474K	C2012X5R1E474K
	±20%	0.8+0.15,-0.10	C2012JB1E474M	C2012X5R1E474M
1,000,000	±10%	1.25±0.10	C2012JB1E105K	C2012X5R1E105K
	±20%	1.25±0.10	C2012JB1E105M	C2012X5R1E105M
1,500,000	±10%	1.25±0.10	C2012JB1E155K	C2012X5R1E155K
	±20%	1.25±0.10	C2012JB1E155M	C2012X5R1E155M
2,200,000	±10%	1.25±0.10	C2012JB1E225K	C2012X5R1E225K
	±20%	1.25±0.10	C2012JB1E225M	C2012X5R1E225M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
330,000	±10%	0.6±0.10	C2012JB1C334K	C2012X5R1C334K
	±20%	0.6±0.10	C2012JB1C334M	C2012X5R1C334M
470,000	±10%	0.6±0.10	C2012JB1C474K	C2012X5R1C474K
	±20%	0.6±0.10	C2012JB1C474M	C2012X5R1C474M
680,000	±10%	0.8+0.15,-0.10	C2012JB1C684K	C2012X5R1C684K
	±20%	0.8+0.15,-0.10	C2012JB1C684M	C2012X5R1C684M
1,000,000	±10%	0.8+0.15,-0.10	C2012JB1C105K	C2012X5R1C105K
	±20%	0.8+0.15,-0.10	C2012JB1C105M	C2012X5R1C105M
3,300,000	±10%	1.25±0.20	C2012JB1C335K	C2012X5R1C335K
	±20%	1.25±0.20	C2012JB1C335M	C2012X5R1C335M
4,700,000	±10%	1.25±0.20	C2012JB1C475K	C2012X5R1C475K
	±20%	1.25±0.20	C2012JB1C475M	C2012X5R1C475M

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
680,000	±10%	0.6±0.10	C2012JB1A684K	C2012X5R1A684K
	±20%	0.6±0.10	C2012JB1A684M	C2012X5R1A684M
1,000,000	±10%	0.85±0.10	C2012JB1A105K	C2012X5R1A105K
	±20%	0.85±0.10	C2012JB1A105M	C2012X5R1A105M
1,500,000	±10%	0.85±0.10	C2012JB1A155K	C2012X5R1A155K
	±20%	0.85±0.10	C2012JB1A155M	C2012X5R1A155M
2,200,000	±10%	0.8+0.15,-0.10	C2012JB1A225K	C2012X5R1A225K
	±20%	0.8+0.15,-0.10	C2012JB1A225M	C2012X5R1A225M
3,300,000	±10%	1.25±0.10	C2012JB1A335K	C2012X5R1A335K
	±20%	1.25±0.10	C2012JB1A335M	C2012X5R1A335M
4,700,000	±10%	1.25±0.10	C2012JB1A475K	C2012X5R1A475K
	±20%	1.25±0.10	C2012JB1A475M	C2012X5R1A475M
6,800,000	±10%	1.25±0.10	C2012JB1A685K	C2012X5R1A685K
	±20%	1.25±0.10	C2012JB1A685M	C2012X5R1A685M
10,000,000	±10%	1.25±0.10	C2012JB1A106K	C2012X5R1A106K
	±20%	1.25±0.10	C2012JB1A106M	C2012X5R1A106M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
1,000,000	±10%	0.6±0.10	C2012JB0J105K	C2012X5R0J105K
	±20%	0.6±0.10	C2012JB0J105M	C2012X5R0J105M
3,300,000	±10%	0.85+0.15,-0.10	C2012JB0J335K	C2012X5R0J335K
	±20%	0.85+0.15,-0.10	C2012JB0J335M	C2012X5R0J335M
4,700,000	±10%	0.85+0.15,-0.10	C2012JB0J475K	C2012X5R0J475K
	±20%	0.85+0.15,-0.10	C2012JB0J475M	C2012X5R0J475M
6,800,000	±10%	1.25±0.20	C2012JB0J685K	C2012X5R0J685K
	±20%	1.25±0.20	C2012JB0J685M	C2012X5R0J685M
10,000,000	±10%	1.25±0.20	C2012JB0J106K	C2012X5R0J106K
	±20%	1.25±0.20	C2012JB0J106M	C2012X5R0J106M
15,000,000	±20%	1.25±0.20	C2012JB0J156M	C2012X5R0J156M
22,000,000	±20%	1.25±0.20	C2012JB0J226M	C2012X5R0J226M

TEMPERATURE CHARACTERISTICS: X5R/X7R(±15%)
RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: X5R	Temperature characteristics: X7R
680,000	±10%	1.25±0.10	C2012X5R1E684K	C2012X7R1E684K
	±20%	1.25±0.10	C2012X5R1E684M	C2012X7R1E684M
1,000,000	±10%	1.25±0.10	C2012X5R1E105K	C2012X7R1E105K
	±20%	1.25±0.10	C2012X5R1E105M	C2012X7R1E105M
1,500,000	±10%	1.25±0.20	C2012X5R1E155K	C2012X7R1E155K
	±20%	1.25±0.20	C2012X5R1E155M	C2012X7R1E155M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: X5R	Temperature characteristics: X7R
1,000,000	±10%	0.85±0.10	C2012X5R1C105K	C2012X7R1C105K
	±20%	0.85±0.10	C2012X5R1C105M	C2012X7R1C105M
1,500,000	±10%	1.25±0.10	C2012X5R1C155K	C2012X7R1C155K
	±20%	1.25±0.10	C2012X5R1C155M	C2012X7R1C155M
2,200,000	±10%	1.25±0.20	C2012X5R1C225K	C2012X7R1C225K
	±20%	1.25±0.20	C2012X5R1C225M	C2012X7R1C225M

TEMPERATURE CHARACTERISTICS: X5R(±15%)
RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
			Temperature characteristics: X5R
4,700,000	±10%	0.85±0.10	C2012X5R0J475K
	±20%	0.85±0.10	C2012X5R0J475M
15,000,000	±20%	0.85+0.15,-0.10	C2012X5R0J156M

TEMPERATURE CHARACTERISTICS: JF(+30, -80%), Y5V(+22, -82%)
RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JF	Temperature characteristics: Y5V
1,000,000	+80,-20%	0.85±0.10	C2012JF1H105Z	C2012Y5V1H105Z
2,200,000	+80,-20%	1.25±0.20	C2012JF1H225Z	C2012Y5V1H225Z

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JF	Temperature characteristics: Y5V
4,700,000	+80,-20%	1.25±0.20	C2012JF1E475Z	C2012Y5V1E475Z

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JF	Temperature characteristics: Y5V
10,000,000	+80,-20%	1.25±0.20	C2012JF1C106Z	C2012Y5V1C106Z

RATED VOLTAGE E_{dc}: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JF	Temperature characteristics: Y5V
22,000,000	+80,-20%	1.25±0.20	C2012JF0J226Z	C2012Y5V0J226Z

- For more information about the products of other capacitance or data, please contact us.

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