

REMINDERS

Please read this before using the product.

SAFETY REMINDERS

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2. We may modify products or discontinue production of a product listed in this catalog without prior notification.
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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.

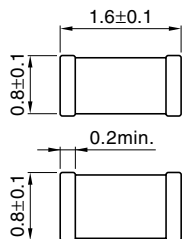
C Series C1608 (EIA CC0603) Types

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	1608	CH	1H	100	D	□
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W

1608	1.6×0.8mm
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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.

R designates a decimal point.

010	1pF
100	10pF
102	1,000pF
0R5	0.5pF

(6) Capacitance tolerance

Symbol	Tolerance	Applicable capacitance range
C	±0.25pF	10pF or less
D	±0.5pF	
J	±5%	Over 10pF
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
0.5	±0.25pF	0.8±0.10	C1608CH1H0R5C	C1608C0G1H0R5C
0.75	±0.25pF	0.8±0.10	C1608CH1HR75C	C1608C0G1HR75C
1	±0.25pF	0.8±0.10	C1608CH1H010C	C1608C0G1H010C
1.5	±0.25pF	0.8±0.10	C1608CH1H1R5C	C1608C0G1H1R5C
2	±0.25pF	0.8±0.10	C1608CH1H020C	C1608C0G1H020C
3	±0.25pF	0.8±0.10	C1608CH1H030C	C1608C0G1H030C
4	±0.25pF	0.8±0.10	C1608CH1H040C	C1608C0G1H040C
5	±0.25pF	0.8±0.10	C1608CH1H050C	C1608C0G1H050C
6	±0.5pF	0.8±0.10	C1608CH1H060D	C1608C0G1H060D
7	±0.5pF	0.8±0.10	C1608CH1H070D	C1608C0G1H070D
8	±0.5pF	0.8±0.10	C1608CH1H080D	C1608C0G1H080D
9	±0.5pF	0.8±0.10	C1608CH1H090D	C1608C0G1H090D
10	±0.5pF	0.8±0.10	C1608CH1H100D	C1608C0G1H100D
12	±5%	0.8±0.10	C1608CH1H120J	C1608C0G1H120J
15	±5%	0.8±0.10	C1608CH1H150J	C1608C0G1H150J
18	±5%	0.8±0.10	C1608CH1H180J	C1608C0G1H180J
22	±5%	0.8±0.10	C1608CH1H220J	C1608C0G1H220J
27	±5%	0.8±0.10	C1608CH1H270J	C1608C0G1H270J
33	±5%	0.8±0.10	C1608CH1H330J	C1608C0G1H330J
39	±5%	0.8±0.10	C1608CH1H390J	C1608C0G1H390J
47	±5%	0.8±0.10	C1608CH1H470J	C1608C0G1H470J
56	±5%	0.8±0.10	C1608CH1H560J	C1608C0G1H560J
68	±5%	0.8±0.10	C1608CH1H680J	C1608C0G1H680J
82	±5%	0.8±0.10	C1608CH1H820J	C1608C0G1H820J
100	±5%	0.8±0.10	C1608CH1H101J	C1608C0G1H101J
120	±5%	0.8±0.10	C1608CH1H121J	C1608C0G1H121J
150	±5%	0.8±0.10	C1608CH1H151J	C1608C0G1H151J
180	±5%	0.8±0.10	C1608CH1H181J	C1608C0G1H181J
220	±5%	0.8±0.10	C1608CH1H221J	C1608C0G1H221J
270	±5%	0.8±0.10	C1608CH1H271J	C1608C0G1H271J
330	±5%	0.8±0.10	C1608CH1H331J	C1608C0G1H331J
390	±5%	0.8±0.10	C1608CH1H391J	C1608C0G1H391J
470	±5%	0.8±0.10	C1608CH1H471J	C1608C0G1H471J
560	±5%	0.8±0.10	C1608CH1H561J	C1608C0G1H561J
680	±5%	0.8±0.10	C1608CH1H681J	C1608C0G1H681J
820	±5%	0.8±0.10	C1608CH1H821J	C1608C0G1H821J
1,000	±5%	0.8±0.10	C1608CH1H102J	C1608C0G1H102J
1,500	±5%	0.8±0.10	C1608CH1H152J	C1608C0G1H152J
2,200	±5%	0.8±0.10	C1608CH1H222J	C1608C0G1H222J
3,300	±5%	0.8±0.10	C1608CH1H332J	C1608C0G1H332J

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
10,000	±10%	0.8±0.10	C1608JB1H103K	C1608X5R1H103K	C1608X7R1H103K
15,000	±10%	0.8±0.10	C1608JB1H153K	C1608X5R1H153K	C1608X7R1H153K
22,000	±10%	0.8±0.10	C1608JB1H223K	C1608X5R1H223K	C1608X7R1H223K
33,000	±10%	0.8±0.10	C1608JB1H333K	C1608X5R1H333K	C1608X7R1H333K
47,000	±10%	0.8±0.10	C1608JB1H473K	C1608X5R1H473K	C1608X7R1H473K
68,000	±10%	0.8±0.10	C1608JB1H683K	C1608X5R1H683K	C1608X7R1H683K
100,000	±10%	0.8±0.10	C1608JB1H104K	C1608X5R1H104K	C1608X7R1H104K
	±20%	0.8±0.10	C1608JB1H104M	C1608X5R1H104M	C1608X7R1H104M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
150,000	±10%	0.8±0.10	C1608JB1E154K	C1608X5R1E154K	C1608X7R1E154K
	±20%	0.8±0.10	C1608JB1E154M	C1608X5R1E154M	C1608X7R1E154M
220,000	±10%	0.8±0.10	C1608JB1E224K	C1608X5R1E224K	C1608X7R1E224K
	±20%	0.8±0.10	C1608JB1E224M	C1608X5R1E224M	C1608X7R1E224M
330,000	±10%	0.8±0.10	C1608JB1E334K	C1608X5R1E334K	C1608X7R1E334K
	±20%	0.8±0.10	C1608JB1E334M	C1608X5R1E334M	C1608X7R1E334M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
470,000	±10%	0.8+0.15, -0.1	C1608JB1C474K	C1608X5R1C474K	C1608X7R1C474K
	±20%	0.8+0.15, -0.1	C1608JB1C474M	C1608X5R1C474M	C1608X7R1C474M
680,000	±10%	0.8+0.15, -0.1	C1608JB1C684K	C1608X5R1C684K	C1608X7R1C684K
	±20%	0.8+0.15, -0.1	C1608JB1C684M	C1608X5R1C684M	C1608X7R1C684M
1,000,000	±10%	0.8+0.15, -0.1	C1608JB1C105K	C1608X5R1C105K	C1608X7R1C105K
	±20%	0.8+0.15, -0.1	C1608JB1C105M	C1608X5R1C105M	C1608X7R1C105M

TEMPERATURE CHARACTERISTICS: JB(±10%), X5R(±15%)**RATED VOLTAGE Edc: 25V**

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
470,000	±10%	0.8+0.15, -0.1	C1608JB1E474K	C1608X5R1E474K
	±20%	0.8+0.15, -0.1	C1608JB1E474M	C1608X5R1E474M
680,000	±10%	0.8+0.15, -0.1	C1608JB1E684K	C1608X5R1E684K
	±20%	0.8+0.15, -0.1	C1608JB1E684M	C1608X5R1E684M
1,000,000	±10%	0.8+0.15, -0.1	C1608JB1E105K	C1608X5R1E105K
	±20%	0.8+0.15, -0.1	C1608JB1E105M	C1608X5R1E105M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
1,500,000	±10%	0.8±0.10	C1608JB0J155K	C1608X5R0J155K
	±20%	0.8±0.10	C1608JB0J155M	C1608X5R0J155M
2,200,000	±10%	0.8±0.10	C1608JB0J225K	C1608X5R0J225K
	±20%	0.8±0.10	C1608JB0J225M	C1608X5R0J225M
3,300,000	±10%	0.8±0.10	C1608JB0J335K	C1608X5R0J335K
	±20%	0.8±0.10	C1608JB0J335M	C1608X5R0J335M
4,700,000	±10%	0.8±0.10	C1608JB0J475K	C1608X5R0J475K
	±20%	0.8±0.10	C1608JB0J475M	C1608X5R0J475M
6,800,000	±10%	0.8+0.15, -0.1	C1608JB0J685K	C1608X5R0J685K
	±20%	0.8+0.15, -0.1	C1608JB0J685M	C1608X5R0J685M
10,000,000	±20%	0.8+0.15, -0.1	C1608JB0J106M	C1608X5R0J106M

TEMPERATURE CHARACTERISTICS: JF(+30, -80%), Y5V(+22, -82%)**RATED VOLTAGE Edc: 50V**

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JF	Temperature characteristics: Y5V
100,000	+80, -20%	0.8±0.10	C1608JF1H104Z	C1608Y5V1H104Z
220,000	+80, -20%	0.8±0.10	C1608JF1H224Z	C1608Y5V1H224Z
470,000	+80, -20%	0.8±0.10	C1608JF1H474Z	C1608Y5V1H474Z

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	Temperature characteristics: JF	Temperature characteristics: Y5V
1,000,000	+80,-20%	0.8±0.10	C1608JF1E105Z		C1608Y5V1E105Z

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	Temperature characteristics: JF	Temperature characteristics: Y5V
2,200,000	+80,-20%	0.8±0.10	C1608JF1C225Z		C1608Y5V1C225Z

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	Temperature characteristics: JF	Temperature characteristics: Y5V
4,700,000	+80,-20%	0.8±0.10	C1608JF0J475Z		C1608Y5V0J475Z
10,000,000	+80,-20%	0.8+0.15,-0.10	C1608JF0J106Z		C1608Y5V0J106Z

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

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