

# General Multilayer Ceramic Chip Capacitors

## C Series

### 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.

### PRODUCT IDENTIFICATION

C 0603 CH 1H 100 D □  
 (1) (2) (3) (4) (5) (6) (7)

#### (1) Series name

#### (2) Dimensions L×W

0603	0.6×0.3mm
1005	1.0×0.5mm
1608	1.6×0.8mm
2012	2.0×1.25mm
3216	3.2×1.6mm
3225	3.2×2.5mm
4532	4.5×3.2mm
5750	5.7×5.0mm

#### (3) Capacitance temperature characteristics

##### Class 1 (Temperature compensation)

Temperature characteristics	Capacitance change	Temperature range
CH	0±60ppm/°C	-25 to +85°C
COG	0±30ppm/°C	-55 to +125°C
SL	+350 to -1000ppm/°C	+20 to +85°C

##### Class 2

Temperature characteristics	Capacitance change	Temperature range
B(JB*)	±10%	-25 to +85°C
F(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

\*JB(JIS: BJ), JF(JIS: FJ)

#### (4) Rated voltage E<sub>dc</sub>

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

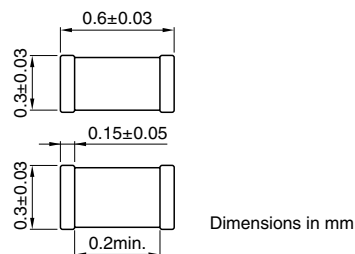
#### (6) Capacitance tolerance

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

## C0603 (EIA CC0201) TYPE SHAPES AND DIMENSIONS



### CAPACITANCE RANGES: CLASS 1

#### TEMPERATURE CHARACTERISTICS:

JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
0.5	±0.25pF	0.3±0.03	C0603CH1H0R5C
0.75	±0.25pF	0.3±0.03	C0603CH1HR75C
1	±0.25pF	0.3±0.03	C0603CH1H010C
1.5	±0.25pF	0.3±0.03	C0603CH1H1R5C
2	±0.25pF	0.3±0.03	C0603CH1H020C
3	±0.25pF	0.3±0.03	C0603CH1H030C
4	±0.25pF	0.3±0.03	C0603CH1H040C
5	±0.25pF	0.3±0.03	C0603CH1H050C
6	±0.5pF	0.3±0.03	C0603CH1H060D
7	±0.5pF	0.3±0.03	C0603CH1H070D
8	±0.5pF	0.3±0.03	C0603CH1H080D
9	±0.5pF	0.3±0.03	C0603CH1H090D
10	±0.5pF	0.3±0.03	C0603CH1H100D
12	±5%	0.3±0.03	C0603CH1H120J
15	±5%	0.3±0.03	C0603CH1H150J
18	±5%	0.3±0.03	C0603CH1H180J
22	±5%	0.3±0.03	C0603CH1H220J
27	±5%	0.3±0.03	C0603CH1H270J
33	±5%	0.3±0.03	C0603CH1H330J
39	±5%	0.3±0.03	C0603CH1H390J
47	±5%	0.3±0.03	C0603CH1H470J
56	±5%	0.3±0.03	C0603CH1H560J
68	±5%	0.3±0.03	C0603CH1H680J
82	±5%	0.3±0.03	C0603CH1H820J
100	±5%	0.3±0.03	C0603CH1H101J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

### CAPACITANCE RANGES: CLASS 2

#### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R/X7R(±15%)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100	±10%	0.3±0.03	C0603JB1H101K
150	±10%	0.3±0.03	C0603JB1H151K
220	±10%	0.3±0.03	C0603JB1H221K
330	±10%	0.3±0.03	C0603JB1H331K
470	±10%	0.3±0.03	C0603JB1H471K

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
680	±10%	0.3±0.03	C0603JB1E681K
1,000	±10%	0.3±0.03	C0603JB1E102K
1,500	±10%	0.3±0.03	C0603JB1E152K
2,200	±10%	0.3±0.03	C0603JB1E222K

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,300	±10%	0.3±0.03	C0603JB1C332K
4,700	±10%	0.3±0.03	C0603JB1C472K

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
6,800	±10%	0.3±0.03	C0603JB1A682K
10,000	±10%	0.3±0.03	C0603JB1A103K

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R(±15%)

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000	±10%	0.3±0.03	C0603JB0J223K
47,000	±10%	0.3±0.03	C0603JB0J473K
68,000	±10%	0.3±0.03	C0603JB0J683K
100,000	±10%	0.3±0.03	C0603JB0J104K

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS:

JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000	+80, -20%	0.3±0.03	C0603JF1E102Z

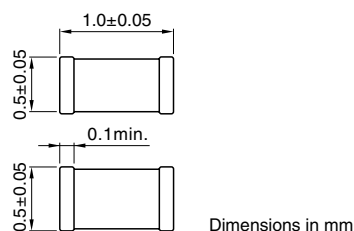
RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000	+80, -20%	0.3±0.03	C0603JF1C103Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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

## C1005 (EIA CC0402) TYPE SHAPES AND DIMENSIONS



### CAPACITANCE RANGES: CLASS 1

#### TEMPERATURE CHARACTERISTICS:

JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)

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

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
0.5	±0.25pF	0.5±0.05	C1005CH1H0R5C
0.75	±0.25pF	0.5±0.05	C1005CH1HR75C
1	±0.25pF	0.5±0.05	C1005CH1H010C
1.5	±0.25pF	0.5±0.05	C1005CH1H1R5C
2	±0.25pF	0.5±0.05	C1005CH1H020C
3	±0.25pF	0.5±0.05	C1005CH1H030C
4	±0.25pF	0.5±0.05	C1005CH1H040C
5	±0.25pF	0.5±0.05	C1005CH1H050C
6	±0.5pF	0.5±0.05	C1005CH1H060D
7	±0.5pF	0.5±0.05	C1005CH1H070D
8	±0.5pF	0.5±0.05	C1005CH1H080D
9	±0.5pF	0.5±0.05	C1005CH1H090D
10	±0.5pF	0.5±0.05	C1005CH1H100D
12	±5%	0.5±0.05	C1005CH1H120J
15	±5%	0.5±0.05	C1005CH1H150J
18	±5%	0.5±0.05	C1005CH1H180J
22	±5%	0.5±0.05	C1005CH1H220J
27	±5%	0.5±0.05	C1005CH1H270J
33	±5%	0.5±0.05	C1005CH1H330J
39	±5%	0.5±0.05	C1005CH1H390J
47	±5%	0.5±0.05	C1005CH1H470J
56	±5%	0.5±0.05	C1005CH1H560J
68	±5%	0.5±0.05	C1005CH1H680J
82	±5%	0.5±0.05	C1005CH1H820J
100	±5%	0.5±0.05	C1005CH1H101J
120	±5%	0.5±0.05	C1005CH1H121J
150	±5%	0.5±0.05	C1005CH1H151J
180	±5%	0.5±0.05	C1005CH1H181J
220	±5%	0.5±0.05	C1005CH1H221J
270	±5%	0.5±0.05	C1005CH1H271J
330	±5%	0.5±0.05	C1005CH1H331J
390	±5%	0.5±0.05	C1005CH1H391J
470	±5%	0.5±0.05	C1005CH1H471J

RATED VOLTAGE E<sub>dc</sub>: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
560	±5%	0.5±0.05	C1005CH1E561J
680	±5%	0.5±0.05	C1005CH1E681J
820	±5%	0.5±0.05	C1005CH1E821J
1,000	±5%	0.5±0.05	C1005CH1E102J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS:

JIS SL(+350 to -1000ppm/°C)

RATED VOLTAGE E<sub>dc</sub>: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,200	±5%	0.5±0.05	C1005SL1A122J
1,500	±5%	0.5±0.05	C1005SL1A152J
1,800	±5%	0.5±0.05	C1005SL1A182J
2,200	±5%	0.5±0.05	C1005SL1A222J
2,700	±5%	0.5±0.05	C1005SL1A272J
3,300	±5%	0.5±0.05	C1005SL1A332J
3,900	±5%	0.5±0.05	C1005SL1A392J

### CAPACITANCE RANGES: CLASS 2

#### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R/X7R(±15%)

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

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
220	±10%	0.5±0.05	C1005JB1H221K
330	±10%	0.5±0.05	C1005JB1H331K
470	±10%	0.5±0.05	C1005JB1H471K
680	±10%	0.5±0.05	C1005JB1H681K
1,000	±10%	0.5±0.05	C1005JB1H102K
1,500	±10%	0.5±0.05	C1005JB1H152K
2,200	±10%	0.5±0.05	C1005JB1H222K
3,300	±10%	0.5±0.05	C1005JB1H332K
4,700	±10%	0.5±0.05	C1005JB1H472K
6,800	±10%	0.5±0.05	C1005JB1H682K

RATED VOLTAGE E<sub>dc</sub>: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000	±10%	0.5±0.05	C1005JB1E103K
15,000	±10%	0.5±0.05	C1005JB1E153K
22,000	±10%	0.5±0.05	C1005JB1E223K
33,000	±10%	0.5±0.05	C1005JB1E333K
47,000	±10%	0.5±0.05	C1005JB1E473K

RATED VOLTAGE E<sub>dc</sub>: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000	±10%	0.5±0.05	C1005JB1C333K
47,000	±10%	0.5±0.05	C1005JB1C473K
68,000	±10%	0.5±0.05	C1005JB1C683K
100,000	±10%	0.5±0.05	C1005JB1C104K

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.
- For more information about the products of other capacitance or data, please contact us.

**TEMPERATURE CHARACTERISTICS:****JIS B(BJ)(±10%), EIA X5R(±15%)**RATED VOLTAGE E<sub>dc</sub>: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000	±10%	0.5±0.05	C1005JB1A104K

RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
150,000	±10%	0.5±0.05	C1005JB0J154K
	±20%	0.5±0.05	C1005JB0J154M
220,000	±10%	0.5±0.05	C1005JB0J224K
	±20%	0.5±0.05	C1005JB0J224M
330,000	±10%	0.5±0.05	C1005JB0J334K
	±20%	0.5±0.05	C1005JB0J334M
470,000	±10%	0.5±0.05	C1005JB0J474K
	±20%	0.5±0.05	C1005JB0J474M
680,000	±10%	0.5±0.05	C1005JB0J684K
	±20%	0.5±0.05	C1005JB0J684M
1,000,000 [1μF]	±10%	0.5±0.05	C1005JB0J105K
	±20%	0.5±0.05	C1005JB0J105M

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**RATED VOLTAGE E<sub>dc</sub>: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000	+80, -20%	0.5±0.05	C1005JF1C104Z

RATED VOLTAGE E<sub>dc</sub>: 10V

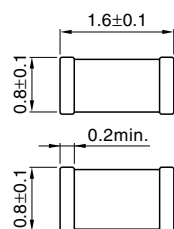
Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
220,000	+80, -20%	0.5±0.05	C1005JF1A224Z
470,000	+80, -20%	0.5±0.05	C1005JF1A474Z

RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	+80, -20%	0.5±0.05	C1005JF0J105Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.
- For more information about the products of other capacitance or data, please contact us.

## C1608 (EIA CC0603) TYPE SHAPES AND DIMENSIONS



Dimensions in mm



### CAPACITANCE RANGES: CLASS 1

#### TEMPERATURE CHARACTERISTICS:

JIS CH( $0 \pm 60 \text{ppm}/^\circ\text{C}$ ), EIA C0G( $0 \pm 30 \text{ppm}/^\circ\text{C}$ )

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
0.5	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H0R5C
0.75	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1HR75C
1	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H010C
1.5	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H1R5C
2	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H020C
3	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H030C
4	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H040C
5	$\pm 0.25 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H050C
6	$\pm 0.5 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H060D
7	$\pm 0.5 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H070D
8	$\pm 0.5 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H080D
9	$\pm 0.5 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H090D
10	$\pm 0.5 \text{pF}$	$0.8 \pm 0.1$	C1608CH1H100D
12	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H120J
15	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H150J
18	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H180J
22	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H220J
27	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H270J
33	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H330J
39	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H390J
47	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H470J
56	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H560J
68	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H680J
82	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H820J
100	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H101J
120	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H121J
150	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H151J
180	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H181J
220	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H221J
270	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H271J
330	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H331J
390	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H391J
470	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H471J
560	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H561J
680	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H681J
820	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H821J
1,000	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H102J
1,200	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H122J
1,500	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H152J
1,800	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H182J
2,200	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H222J
2,700	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H272J
3,300	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1H332J

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,900	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E392J
4,700	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E472J
5,600	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E562J
6,800	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E682J
8,200	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E822J
10,000	$\pm 5\%$	$0.8 \pm 0.1$	C1608CH1E103J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS:

JIS SL( $+350$  to  $-1000 \text{ppm}/^\circ\text{C}$ )

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
15,000	$\pm 5\%$	$0.5 \pm 0.05$	C1608SL1A153J
22,000	$\pm 5\%$	$0.5 \pm 0.05$	C1608SL1A223J

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

**CAPACITANCE RANGES: CLASS 2****TEMPERATURE CHARACTERISTICS:****JIS B(BJ)(±10%), EIA X5R/X7R(±15%)**RATED VOLTAGE E<sub>dc</sub>: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
220	±10%	0.8±0.1	C1608JB1H221K
330	±10%	0.8±0.1	C1608JB1H331K
470	±10%	0.8±0.1	C1608JB1H471K
680	±10%	0.8±0.1	C1608JB1H681K
1,000	±10%	0.8±0.1	C1608JB1H102K
1,500	±10%	0.8±0.1	C1608JB1H152K
2,200	±10%	0.8±0.1	C1608JB1H222K
3,300	±10%	0.8±0.1	C1608JB1H332K
4,700	±10%	0.8±0.1	C1608JB1H472K
6,800	±10%	0.8±0.1	C1608JB1H682K
10,000	±10%	0.8±0.1	C1608JB1H103K
15,000	±10%	0.8±0.1	C1608JB1H153K
22,000	±10%	0.8±0.1	C1608JB1H223K
33,000	±10%	0.8±0.1	C1608JB1H333K
47,000	±10%	0.8±0.1	C1608JB1H473K
68,000	±10%	0.8±0.1	C1608JB1H683K
100,000	±10%	0.8±0.1	C1608JB1H104K

RATED VOLTAGE E<sub>dc</sub>: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000	±10%	0.8±0.1	C1608JB1E104K
150,000	±10%	0.8±0.1	C1608JB1E154K
	±20%	0.8±0.1	C1608JB1E154M
220,000	±10%	0.8±0.1	C1608JB1E224K
	±20%	0.8±0.1	C1608JB1E224M

RATED VOLTAGE E<sub>dc</sub>: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
330,000	±10%	0.8±0.1	C1608JB1C334K
	±20%	0.8±0.1	C1608JB1C334M
470,000	±10%	0.8±0.1	C1608JB1C474K
	±20%	0.8±0.1	C1608JB1C474M
680,000	±10%	0.8±0.1	C1608JB1C684K
	±20%	0.8±0.1	C1608JB1C684M
1,000,000 [1μF]	±10%	0.8±0.1	C1608JB1C105K
	±20%	0.8±0.1	C1608JB1C105M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:****JIS B(BJ)(±10%), EIA X5R(±15%)**RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,500,000 [1.5μF]	±10%	0.8±0.1	C1608JB0J155K
	±20%	0.8±0.1	C1608JB0J155M
2,200,000	±10%	0.8±0.1	C1608JB0J225K
	±20%	0.8±0.1	C1608JB0J225M
3,300,000	±10%	0.8±0.1	C1608JB0J335K
	±20%	0.8±0.1	C1608JB0J335M
4,700,000	±10%	0.8±0.1	C1608JB0J475K
	±20%	0.8±0.1	C1608JB0J475M

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)**RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,500,000 [1.5μF]	±10%	0.8±0.1	C1608X5R0J155K
	±20%	0.8±0.1	C1608X5R0J155M
2,200,000	±10%	0.8±0.1	C1608X5R0J225K
	±20%	0.8±0.1	C1608X5R0J225M

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**RATED VOLTAGE E<sub>dc</sub>: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000	+80, -20%	0.8±0.1	C1608JF1H104Z
220,000	+80, -20%	0.8±0.1	C1608JF1H224Z

RATED VOLTAGE E<sub>dc</sub>: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
470,000	+80, -20%	0.8±0.1	C1608JF1E474Z

RATED VOLTAGE E<sub>dc</sub>: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	+80, -20%	0.8±0.1	C1608JF1C105Z

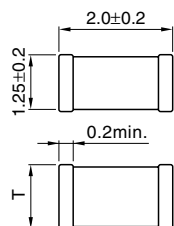
RATED VOLTAGE E<sub>dc</sub>: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000 [2.2μF]	+80, -20%	0.8±0.1	C1608JF1A225Z

RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	+80, -20%	0.8±0.1	C1608JF0J475Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.
- For more information about the products of other capacitance or data, please contact us.

**C2012 (EIA CC0805) TYPE  
SHAPES AND DIMENSIONS**


Dimensions in mm


**CAPACITANCE RANGES: CLASS 1**
**TEMPERATURE CHARACTERISTICS:**
**JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)**
**RATED VOLTAGE E<sub>dc</sub>: 50V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,700	±5%	0.6±0.1	C2012CH1H272J
3,300	±5%	0.6±0.1	C2012CH1H332J
3,900	±5%	0.85±0.15	C2012CH1H392J
4,700	±5%	0.85±0.15	C2012CH1H472J
5,600	±5%	0.85±0.15	C2012CH1H562J
6,800	±5%	1.25±0.2	C2012CH1H682J
8,200	±5%	1.25±0.2	C2012CH1H822J
10,000	±5%	1.25±0.2	C2012CH1H103J

**RATED VOLTAGE E<sub>dc</sub>: 25V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,900	±5%	0.6±0.1	C2012CH1E392J
4,700	±5%	0.6±0.1	C2012CH1E472J
5,600	±5%	0.6±0.1	C2012CH1E562J
6,800	±5%	0.6±0.1	C2012CH1E682J
8,200	±5%	0.6±0.1	C2012CH1E822J
10,000	±5%	0.6±0.1	C2012CH1E103J
15,000	±5%	0.85±0.15	C2012CH1E153J
22,000	±5%	1.25±0.2	C2012CH1E223J
33,000	±5%	1.25±0.2	C2012CH1E333J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:**
**JIS SL(+350 to -1000ppm/°C)**
**RATED VOLTAGE E<sub>dc</sub>: 10V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000	±5%	0.6±0.1	C2012SL1A333J
47,000	±5%	0.85±0.15	C2012SL1A473J
68,000	±5%	1.25±0.2	C2012SL1A683J
100,000	±5%	1.25±0.2	C2012SL1A104J

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

**CAPACITANCE RANGES: CLASS 2**
**TEMPERATURE CHARACTERISTICS:**
**JIS B(BJ)(±10%), EIA X5R/X7R(±15%)**
**RATED VOLTAGE E<sub>dc</sub>: 50V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
150,000	±10%	1.25±0.2	C2012JB1H154K
	±20%	1.25±0.2	C2012JB1H154M
220,000	±10%	1.25±0.2	C2012JB1H224K
	±20%	1.25±0.2	C2012JB1H224M
330,000	±10%	1.25±0.2	C2012JB1H334K
	±20%	1.25±0.2	C2012JB1H334M

**RATED VOLTAGE E<sub>dc</sub>: 25V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
470,000	±10%	1.25±0.2	C2012JB1E474K
	±20%	1.25±0.2	C2012JB1E474M
680,000	±10%	1.25±0.2	C2012JB1E684K
	±20%	1.25±0.2	C2012JB1E684M
1,000,000 [1μF]	±10%	1.25±0.2	C2012JB1E105K
	±20%	1.25±0.2	C2012JB1E105M

**RATED VOLTAGE E<sub>dc</sub>: 16V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,500,000 [1.5μF]	±10%	1.25±0.2	C2012JB1C155K
	±20%	1.25±0.2	C2012JB1C155M
2,200,000	±10%	1.25±0.2	C2012JB1C225K
	±20%	1.25±0.2	C2012JB1C225M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:**
**JIS B(BJ)(±10%), EIA X5R(±15%)**
**RATED VOLTAGE E<sub>dc</sub>: 10V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,300,000 [3.3μF]	±10%	1.25±0.2	C2012JB1A335K
	±20%	1.25±0.2	C2012JB1A335M
4,700,000	±10%	1.25±0.2	C2012JB1A475K
	±20%	1.25±0.2	C2012JB1A475M

**RATED VOLTAGE E<sub>dc</sub>: 6.3V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
6,800,000 [6.8μF]	±10%	1.25±0.2	C2012JB0J685K
	±20%	1.25±0.2	C2012JB0J685M
10,000,000	±10%	1.25±0.2	C2012JB0J106K
	±20%	1.25±0.2	C2012JB0J106M
15,000,000	±20%	1.25±0.2	C2012JB0J156M
22,000,000	±20%	1.25±0.2	C2012JB0J226M

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R/X7R(±15%)**

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	±10%	1.25±0.2	C2012X5R1E105K
	±20%	1.25±0.2	C2012X5R1E105M
1,500,000	±10%	1.25±0.2	C2012X5R1E155K
	±20%	1.25±0.2	C2012X5R1E155M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	±10%	0.85±0.15	C2012X5R1C105K
	±20%	0.85±0.15	C2012X5R1C105M
1,500,000	±10%	1.25±0.2	C2012X5R1C155K
	±20%	1.25±0.2	C2012X5R1C155M
2,200,000	±10%	1.25±0.2	C2012X5R1C225K
	±20%	1.25±0.2	C2012X5R1C225M

- Part number for temperature characteristic X7R  
Please substitute "X7R" for "X5R" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)**

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,500,000 [1.5μF]	±10%	0.85±0.15	C2012X5R1A155K
	±20%	0.85±0.15	C2012X5R1A155M
2,200,000	±10%	1.25±0.2	C2012X5R1A225K
	±20%	1.25±0.2	C2012X5R1A225M
3,300,000	±10%	1.25±0.2	C2012X5R1A335K
	±20%	1.25±0.2	C2012X5R1A335M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000 [2.2μF]	±10%	0.85±0.15	C2012X5R0J225K
	±20%	0.85±0.15	C2012X5R0J225M
3,300,000	±10%	0.85±0.15	C2012X5R0J335K
	±20%	0.85±0.15	C2012X5R0J335M
4,700,000	±10%	0.85±0.15	C2012X5R0J475K
	±20%	0.85±0.15	C2012X5R0J475M
6,800,000	±10%	1.25±0.2	C2012X5R0J685K
	±20%	1.25±0.2	C2012X5R0J685M
10,000,000	±10%	1.25±0.2	C2012X5R0J106K
	±20%	1.25±0.2	C2012X5R0J106M

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
470,000	+80, -20%	0.85±0.15	C2012JF1H474Z
1,000,000 [1μF]	+80, -20%	1.25±0.15	C2012JF1H105Z

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000 [2.2μF]	+80, -20%	1.25±0.15	C2012JF1E225Z

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	+80, -20%	1.25±0.2	C2012JF1C475Z

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	+80, -20%	1.25±0.2	C2012JF1A106Z

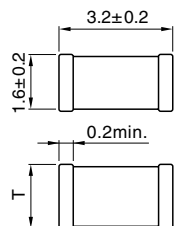
RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	+80, -20%	1.25±0.2	C2012JF0J226Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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



**C3216 (EIA CC1206) TYPE  
SHAPES AND DIMENSIONS**


Dimensions in mm


**CAPACITANCE RANGES: CLASS 1**
**TEMPERATURE CHARACTERISTICS:**
**JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)**
**RATED VOLTAGE Edc: 50V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,900	±5%	0.6±0.1	C3216CH1H392J
4,700	±5%	0.6±0.1	C3216CH1H472J
5,600	±5%	0.6±0.1	C3216CH1H562J
6,800	±5%	0.6±0.1	C3216CH1H682J
8,200	±5%	0.85±0.15	C3216CH1H822J
10,000	±5%	0.85±0.15	C3216CH1H103J
15,000	±5%	1.15±0.15	C3216CH1H153J
22,000	±5%	1.15±0.15	C3216CH1H223J
33,000	±5%	1.6±0.2	C3216CH1H333J

**RATED VOLTAGE Edc: 25V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
8,200	±5%	0.6±0.1	C3216CH1E822J
10,000	±5%	0.6±0.1	C3216CH1E103J
15,000	±5%	0.6±0.1	C3216CH1E153J
22,000	±5%	0.6±0.1	C3216CH1E223J
33,000	±5%	0.85±0.15	C3216CH1E333J
47,000	±5%	1.15±0.15	C3216CH1E473J
68,000	±5%	1.6±0.2	C3216CH1E683J
100,000	±5%	1.6±0.2	C3216CH1E104J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:**
**JIS SL(+350 to -1000ppm/°C)**
**RATED VOLTAGE Edc: 10V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
150,000	±5%	1.15±0.15	C3216SL1A154J
220,000	±5%	1.6±0.2	C3216SL1A224J

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

**CAPACITANCE RANGES: CLASS 2**
**TEMPERATURE CHARACTERISTICS:**
**JIS B(BJ)(±10%), EIA X5R/X7R(±15%)**
**RATED VOLTAGE Edc: 50V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
470,000	±10%	1.6±0.2	C3216JB1H474K
	±20%	1.6±0.2	C3216JB1H474M
680,000	±10%	1.6±0.2	C3216JB1H684K
	±20%	1.6±0.2	C3216JB1H684M
1,000,000 [1μF]	±10%	1.6±0.2	C3216JB1H105K
	±20%	1.6±0.2	C3216JB1H105M

**RATED VOLTAGE Edc: 25V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	±10%	1.6±0.2	C3216JB1E105K
	±20%	1.6±0.2	C3216JB1E105M
1,500,000	±10%	1.6±0.2	C3216JB1E155K
	±20%	1.6±0.2	C3216JB1E155M
2,200,000	±10%	1.6±0.2	C3216JB1E225K
	±20%	1.6±0.2	C3216JB1E225M
3,300,000	±10%	1.6±0.2	C3216JB1E335K
	±20%	1.6±0.2	C3216JB1E335M
4,700,000	±10%	1.6±0.2	C3216JB1E475K
	±20%	1.6±0.2	C3216JB1E475M

**RATED VOLTAGE Edc: 16V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
6,800,000 [6.8μF]	±10%	1.6±0.2	C3216JB1C685K
	±20%	1.6±0.2	C3216JB1C685M
10,000,000	±10%	1.6±0.2	C3216JB1C106K
	±20%	1.6±0.2	C3216JB1C106M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS:**
**JIS B(BJ)(±10%), EIA X5R(±15%)**
**RATED VOLTAGE Edc: 6.3V**

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000,000 [33μF]	±20%	1.6+0.3,-0.1	C3216JB0J336M
47,000,000	±20%	1.6+0.3,-0.1	C3216JB0J476M

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R/X7R(±15%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000	±10%	1.6±0.2	C3216X5R1H105K
[1μF]	±20%	1.6±0.2	C3216X5R1H105M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000	±10%	0.85±0.15	C3216X5R1C225K
[2.2μF]	±20%	0.85±0.15	C3216X5R1C225M
3,300,000	±10%	1.10±0.15	C3216X5R1C335K
	±20%	1.10±0.15	C3216X5R1C335M
4,700,000	±10%	1.6±0.2	C3216X5R1C475K
	±20%	1.6±0.2	C3216X5R1C475M

- Part number for temperature characteristic X7R  
Please substitute "X7R" for "X5R" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)**

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,300,000	±10%	0.85±0.15	C3216X5R1A335K
[3.3μF]	±20%	0.85±0.15	C3216X5R1A335M
4,700,000	±10%	1.15±0.15	C3216X5R1A475K
	±20%	1.15±0.15	C3216X5R1A475M
6,800,000	±10%	1.6±0.2	C3216X5R1A685K
	±20%	1.6±0.2	C3216X5R1A685M
10,000,000	±10%	1.6±0.2	C3216X5R1A106K
	±20%	1.6±0.2	C3216X5R1A106M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000	±10%	0.85±0.15	C3216X5R0J475K
[4.7μF]	±20%	0.85±0.15	C3216X5R0J475M
6,800,000	±10%	0.85±0.15	C3216X5R0J685K
	±20%	0.85±0.15	C3216X5R0J685M
10,000,000	±10%	0.85±0.15	C3216X5R0J106K
	±20%	0.85±0.15	C3216X5R0J106M
15,000,000	±20%	1.6±0.2	C3216X5R0J156M
22,000,000	±20%	1.6±0.2	C3216X5R0J226M

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000	+80, -20%	1.15±0.2	C3216JF1H225Z
[2.2μF]			

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000	+80, -20%	1.15±0.2	C3216JF1E475Z
[4.7μF]			

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000	+80, -20%	1.6±0.2	C3216JF1C106Z
[10μF]			

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000	+80, -20%	1.6±0.2	C3216JF1A226Z
[22μF]			

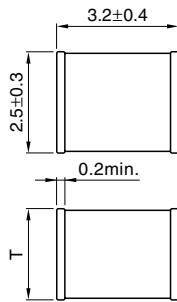
RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
47,000,000	+80, -20%	1.6±0.2	C3216JF0J476Z
[47μF]			

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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

## C3225(EIA CC1210) TYPE SHAPES AND DIMENSIONS



Dimensions in mm



### CAPACITANCE RANGES: CLASS 1

#### TEMPERATURE CHARACTERISTICS:

JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000	±5%	1.25±0.2	C3225CH1H333J
47,000	±5%	2.0±0.2	C3225CH1H473J
68,000	±5%	2.0±0.2	C3225CH1H683J
100,000	±5%	2.5±0.3	C3225CH1H104J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

### CAPACITANCE RANGES: CLASS 2

#### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R/X7R(±15%)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,000,000 [1μF]	±10% ±20%	1.6±0.2 1.6±0.2	C3225JB1H105K C3225JB1H105M
1,500,000	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1H155K C3225JB1H155M
2,200,000	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1H225K C3225JB1H225M
3,300,000	±10% ±20%	2.5±0.3 2.5±0.3	C3225JB1H335K C3225JB1H335M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
3,300,000 [3.3μF]	±10% ±20%	1.6±0.2 1.6±0.2	C3225JB1E335K C3225JB1E335M
4,700,000	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1E475K C3225JB1E475M
6,800,000	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1E685K C3225JB1E685M
10,000,000	±10% ±20%	2.5±0.3 2.5±0.3	C3225JB1E106K C3225JB1E106M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
6,800,000 [6.8μF]	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1C685K C3225JB1C685M
10,000,000	±10% ±20%	2.0±0.2 2.0±0.2	C3225JB1C106K C3225JB1C106M
15,000,000	±20%	2.5±0.3	C3225JB1C156M
22,000,000	±20%	2.5±0.3	C3225JB1C226M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R(±15%)

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
15,000,000 [15μF]	±20%	2.3±0.2	C3225JB1A156M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	±20%	2.0±0.2	C3225JB0J226M
68,000,000	±20%	2.0±0.3	C3225JB0J686M
100,000,000	±20%	2.5±0.3	C3225JB0J107M

- Part number for temperature characteristic X5R  
Please substitute "X5R" for "JB" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS: EIA X5R/X7R(±15%)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
2,200,000 [2.2μF]	±10% ±20%	2.0±0.2 2.0±0.2	C3225X5R1H225K C3225X5R1H225M
3,300,000	±10% ±20%	2.5±0.3 2.5±0.3	C3225X5R1H335K C3225X5R1H335M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
6,800,000 [6.8μF]	±10% ±20%	2.5±0.3 2.5±0.3	C3225X5R1E685K C3225X5R1E685M
10,000,000	±10% ±20%	2.5±0.3 2.5±0.3	C3225X5R1E106K C3225X5R1E106M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	±10% ±20%	2.0±0.2 2.0±0.2	C3225X5R1C106K C3225X5R1C106M
15,000,000	±20%	2.5±0.3	C3225X5R1C156M
22,000,000	±20%	2.5±0.3	C3225X5R1C226M

- Part number for temperature characteristic X7R  
Please substitute "X7R" for "X5R" in the part number when ordering.

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

**TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)**RATED VOLTAGE E<sub>dc</sub>: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
15,000,000	±20%	2.5±0.3	C3225X5R1A156M
22,000,000	±20%	2.3±0.2	C3225X5R1A226M

RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	±20%	1.6±0.2	C3225X5R0J226M
33,000,000	±20%	2.0±0.2	C3225X5R0J336M
47,000,000	±20%	2.5±0.3	C3225X5R0J476M

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**RATED VOLTAGE E<sub>dc</sub>: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	+80, -20%	1.6±0.2	C3225JF1H475Z

RATED VOLTAGE E<sub>dc</sub>: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	+80, -20%	1.6±0.2	C3225JF1E106Z

RATED VOLTAGE E<sub>dc</sub>: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	+80, -20%	2.0±0.2	C3225JF1C226Z

RATED VOLTAGE E<sub>dc</sub>: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
47,000,000 [47μF]	+80, -20%	2.0±0.2	C3225JF1A476Z

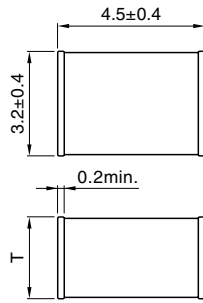
RATED VOLTAGE E<sub>dc</sub>: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000,000 [100μF]	+80, -20%	2.5±0.3	C3225JF0J107Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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

## C4532(EIA CC1812) TYPE SHAPES AND DIMENSIONS



Dimensions in mm



### CAPACITANCE RANGES: CLASS 1

#### TEMPERATURE CHARACTERISTICS:

JIS CH(0±60ppm/°C), EIA C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
47,000	±5%	1.60±0.2	C4532CH1H473J
68,000	±5%	1.60±0.2	C4532CH1H683J
100,000	±5%	2.0±0.2	C4532CH1H104J
150,000	±5%	2.5±0.3	C4532CH1H154J
220,000	±5%	3.2±0.3	C4532CH1H224J

- Part number for temperature characteristic C0G  
Please substitute "C0G" for "CH" in the part number when ordering.

### CAPACITANCE RANGES: CLASS 2

#### TEMPERATURE CHARACTERISTICS:

JIS B(BJ)(±10%), EIA X5R/X7R(±15%)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
1,500,000 [1.5μF]	±10% ±20%	1.6±0.2	C4532JB1H155K C4532JB1H155M
2,200,000	±10% ±20%	1.6±0.2	C4532JB1H225K C4532JB1H225M
3,300,000	±10% ±20%	2.0±0.2	C4532JB1H335K C4532JB1H335M
4,700,000	±10% ±20%	2.3±0.2	C4532JB1H475K C4532JB1H475M
6,800,000	±10% ±20%	2.5±0.3	C4532JB1H685K C4532JB1H685M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	±10% ±20%	1.6±0.2	C4532JB1E475K C4532JB1E475M
6,800,000	±10% ±20%	2.0±0.2	C4532JB1E685K C4532JB1E685M
10,000,000	±10% ±20%	2.5±0.3	C4532JB1E106K C4532JB1E106M
15,000,000	±20%	2.5±0.3	C4532JB1E156M
22,000,000	±20%	2.5±0.3	C4532JB1E226M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	±20%	2.5±0.3	C4532JB1C226M
33,000,000	±20%	2.5±0.3	C4532JB1C336M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS: EIA X5R/X7R(±15%)

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	±10% ±20%	2.0±0.2	C4532X5R1H475K C4532X5R1H475M
6,800,000	±10% ±20%	2.5±0.3	C4532X5R1H685K C4532X5R1H685M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
15,000,000 [15μF]	±20%	2.8±0.3	C4532X5R1E156M
22,000,000	±20%	2.5±0.3	C4532X5R1E226M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
15,000,000 [15μF]	±20%	2.0±0.2	C4532X5R1C156M
22,000,000	±20%	2.3±0.3	C4532X5R1C226M
33,000,000	±20%	2.5±0.3	C4532X5R1C336M

- Part number for temperature characteristic X7R  
Please substitute "X7R" for "X5R" in the part number when ordering.

### TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000,000 [33μF]	±20%	2.0±0.2	C4532X5R1A336M
47,000,000	±20%	2.8±0.3	C4532X5R1A476M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
68,000,000 [68μF]	±20%	2.8±0.3	C4532X5R0J686M
100,000,000	±20%	2.8±0.3	C4532X5R0J107M

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

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10 $\mu$ F]	+80, -20%	2.0 $\pm$ 0.2	C4532JF1H106Z

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22 $\mu$ F]	+80, -20%	2.0 $\pm$ 0.2	C4532JF1E226Z

RATED VOLTAGE Edc: 16V

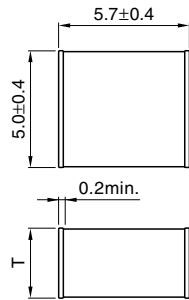
Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
47,000,000 [47 $\mu$ F]	+80, -20%	2.5 $\pm$ 0.3	C4532JF1C476Z

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000,000 [100 $\mu$ F]	+80, -20%	2.5 $\pm$ 0.3	C4532JF1A107Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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

**C5750(EIA CC2220) TYPE  
SHAPES AND DIMENSIONS**


Dimensions in mm

**CAPACITANCE RANGES: CLASS 2****TEMPERATURE CHARACTERISTICS:****JIS B(BJ)(±10%), EIA X5R/X7R(±15%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
4,700,000 [4.7μF]	±10%	2.0±0.2	C5750JB1H475K
	±20%	2.0±0.2	C5750JB1H475M
6,800,000	±10%	2.5±0.3	C5750JB1H685K
	±20%	2.5±0.3	C5750JB1H685M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	±10%	2.0±0.2	C5750JB1E106K
	±20%	2.0±0.2	C5750JB1E106M
15,000,000	±20%	2.3±0.2	C5750JB1E156M
22,000,000	±20%	2.5±0.2	C5750JB1E226M

- Part number for temperature characteristic X5R or X7R  
Please substitute "X5R" or "X7R" for "JB" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R/X7R(±15%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	±10%	2.3±0.2	C5750X5R1H106K
	±20%	2.3±0.2	C5750X5R1H106M

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
10,000,000 [10μF]	±10%	2.0±0.2	C5750X5R1E106K
	±20%	2.0±0.2	C5750X5R1E106M
15,000,000	±20%	2.3±0.2	C5750X5R1E156M
22,000,000	±20%	2.3±0.2	C5750X5R1E226M

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
33,000,000 [33μF]	±20%	2.0±0.2	C5750X5R1C336M
47,000,000	±20%	2.3±0.2	C5750X5R1C476M

- Part number for temperature characteristic X7R  
Please substitute "X7R" for "X5R" in the part number when ordering.

**TEMPERATURE CHARACTERISTICS: EIA X5R(±15%)**

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
68,000,000 [68μF]	±20%	2.3±0.2	C5750X5R1A686M

RATED VOLTAGE Edc: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000,000 [100μF]	±20%	2.8±0.3	C5750X5R0J107M

**TEMPERATURE CHARACTERISTICS:****JIS F(FJ)(+30, -80%), EIA Y5V(+22, -82%)**

RATED VOLTAGE Edc: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
22,000,000 [22μF]	+80, -20%	2.0±0.2	C5750JF1H226Z

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
47,000,000 [47μF]	+80, -20%	2.0±0.2	C5750JF1E476Z

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)max.	Part number
100,000,000 [100μF]	+80, -20%	2.5±0.3	C5750JF1C107Z

- Part number for temperature characteristic Y5V  
Please substitute "Y5V" for "JF" in the part number when ordering.

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