

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_{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.

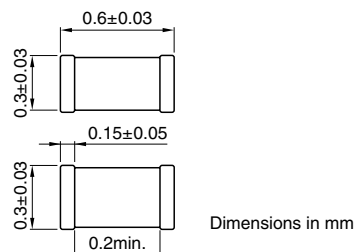
| | |
|-----|---------|
| 010 | 1pF |
| 100 | 10pF |
| 102 | 1,000pF |
| 0R5 | 0.5pF |

(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 |

**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 |

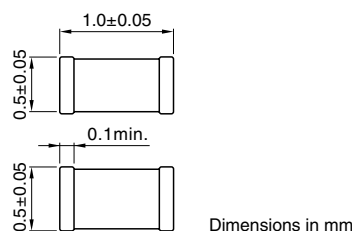
RATED VOLTAGE Edc: 16V

| 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 10V

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

RATED VOLTAGE E_{dc}: 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_{dc}: 16V

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

RATED VOLTAGE E_{dc}: 10V

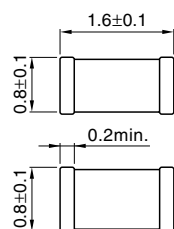
| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|------------------|-----------|----------------------|---------------|
| 220,000 | +80, -20% | 0.5±0.05 | C1005JF1A224Z |
| 470,000 | +80, -20% | 0.5±0.05 | C1005JF1A474Z |

RATED VOLTAGE E_{dc}: 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±60ppm/°C), EIA C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

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

RATED VOLTAGE Edc: 25V

| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|------------------|-----------|----------------------|---------------|
| 3,900 | ±5% | 0.8±0.1 | C1608CH1E392J |
| 4,700 | ±5% | 0.8±0.1 | C1608CH1E472J |
| 5,600 | ±5% | 0.8±0.1 | C1608CH1E562J |
| 6,800 | ±5% | 0.8±0.1 | C1608CH1E682J |
| 8,200 | ±5% | 0.8±0.1 | C1608CH1E822J |
| 10,000 | ±5% | 0.8±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 -1000ppm/°C)

RATED VOLTAGE Edc: 10V

| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|------------------|-----------|----------------------|---------------|
| 15,000 | ±5% | 0.5±0.05 | C1608SL1A153J |
| 22,000 | ±5% | 0.5±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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 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_{dc}: 25V

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

RATED VOLTAGE E_{dc}: 16V

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

RATED VOLTAGE E_{dc}: 10V

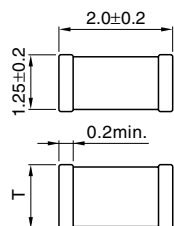
| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|-------------------|-----------|----------------------|---------------|
| 2,200,000 [2.2μF] | +80, -20% | 0.8±0.1 | C1608JF1A225Z |

RATED VOLTAGE E_{dc}: 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 Edc: 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 Edc: 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 Edc: 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 Edc: 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 Edc: 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 Edc: 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 Edc: 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 Edc: 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 |

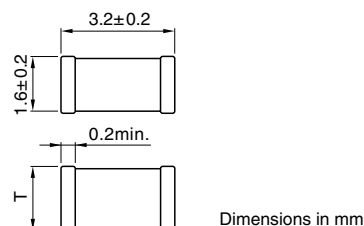
RATED VOLTAGE Edc: 6.3V

| 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



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] | | | |

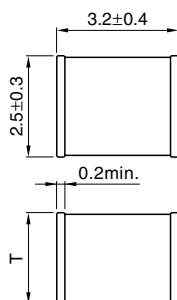
RATED VOLTAGE Edc: 6.3V

| 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% | 1.6±0.2 | C3225JB1H105K |
| | ±20% | 1.6±0.2 | C3225JB1H105M |
| 1,500,000 | ±10% | 2.0±0.2 | C3225JB1H155K |
| | ±20% | 2.0±0.2 | C3225JB1H155M |
| 2,200,000 | ±10% | 2.0±0.2 | C3225JB1H225K |
| | ±20% | 2.0±0.2 | C3225JB1H225M |
| 3,300,000 | ±10% | 2.5±0.3 | C3225JB1H335K |
| | ±20% | 2.5±0.3 | C3225JB1H335M |

RATED VOLTAGE Edc: 25V

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

RATED VOLTAGE Edc: 16V

| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|----------------------|-----------|----------------------|---------------|
| 6,800,000 [6.8µF] | ±10% | 2.0±0.2 | C3225JB1C685K |
| | ±20% | 2.0±0.2 | C3225JB1C685M |
| 10,000,000 | ±10% | 2.0±0.2 | C3225JB1C106K |
| | ±20% | 2.0±0.2 | 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% | 2.0±0.2 | C3225X5R1H225K |
| | ±20% | 2.0±0.2 | C3225X5R1H225M |
| 3,300,000 | ±10% | 2.5±0.3 | C3225X5R1H335K |
| | ±20% | 2.5±0.3 | C3225X5R1H335M |

RATED VOLTAGE Edc: 25V

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

RATED VOLTAGE Edc: 16V

| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|----------------------|-----------|----------------------|----------------|
| 10,000,000 [10µF] | ±10% | 2.0±0.2 | C3225X5R1C106K |
| | ±20% | 2.0±0.2 | 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 Edc: 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 Edc: 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 Edc: 50V

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

RATED VOLTAGE Edc: 25V

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

RATED VOLTAGE Edc: 16V

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

RATED VOLTAGE Edc: 10V

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

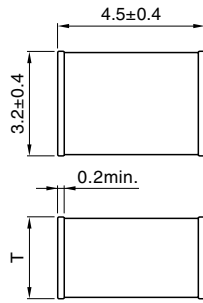
RATED VOLTAGE Edc: 6.3V

| 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 E_{dc}: 50V

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

RATED VOLTAGE E_{dc}: 25V

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

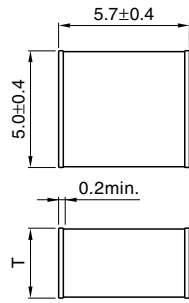
RATED VOLTAGE E_{dc}: 16V

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

RATED VOLTAGE E_{dc}: 10V

| Capacitance (pF) | Tolerance | Thickness T (mm)max. | Part number |
|------------------------------|-----------|-------------------------|---------------|
| 100,000,000 [100 μ 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.