

MULTILAYER CERAMIC CHIP CAPACITORS

C series, C2012 [EIA CC0805] type

FEATURES

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

PRODUCT IDENTIFICATION

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

(1) Series name

(2) Dimensions L×W

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

(3) Capacitance temperature characteristics

Class 1 (Temperature compensation)

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

- Please contact us for order.

Class 2 (Temperature stable and general purpose)

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

(4) Rated voltage Edc

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

CAPACITANCE RANGE AND RATED VOLTAGE

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

(5) Nominal capacitance

The capacitance is expressed in three digit codes and in units of pico farads (pF).

The first and second digits identify the first and second significant figures of the capacitance.

The third digit identifies the multiplier.

R designates a decimal point.

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

(6) Capacitance tolerance

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

(7) Packaging style

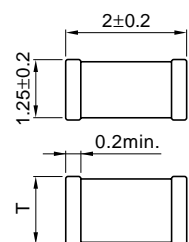
| | |
|---|---------------|
| T | Taping (reel) |
| B | Bulk |

(8) TDK internal code

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SHAPES AND DIMENSIONS



Dimensions in mm

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



CAPACITANCE RANGES

CLASS 1 (TEMPERATURE COMPENSATION)

TEMPERATURE CHARACTERISTICS:

C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 0.5 | ±0.25pF | 0.6±0.15 | C2012C0G1H0R5C |
| 0.75 | ±0.25pF | 0.6±0.15 | C2012C0G1HR75C |
| 1 | ±0.25pF | 0.6±0.15 | C2012C0G1H010C |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H010D |
| 1.5 | ±0.25pF | 0.6±0.15 | C2012C0G1H1R5C |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H020C |
| 2 | ±0.25pF | 0.6±0.15 | C2012C0G1H020D |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H030C |
| 3 | ±0.25pF | 0.6±0.15 | C2012C0G1H030D |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H040C |
| 4 | ±0.25pF | 0.6±0.15 | C2012C0G1H040D |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H050C |
| 5 | ±0.5pF | 0.6±0.15 | C2012C0G1H050D |
| | ±1pF | 0.6±0.15 | C2012C0G1H060D |
| 6 | ±1pF | 0.6±0.15 | C2012C0G1H060F |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H070D |
| 7 | ±1pF | 0.6±0.15 | C2012C0G1H070F |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H080D |
| 8 | ±1pF | 0.6±0.15 | C2012C0G1H080F |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H090D |
| 9 | ±1pF | 0.6±0.15 | C2012C0G1H090F |
| | ±0.5pF | 0.6±0.15 | C2012C0G1H100D |
| 10 | ±1pF | 0.6±0.15 | C2012C0G1H100F |
| | ±5% | 0.6±0.15 | C2012C0G1H110J |
| 12 | ±5% | 0.6±0.15 | C2012C0G1H120J |
| | ±10% | 0.6±0.15 | C2012C0G1H120K |
| 13 | ±5% | 0.6±0.15 | C2012C0G1H130J |
| | ±5% | 0.6±0.15 | C2012C0G1H150J |
| 15 | ±10% | 0.6±0.15 | C2012C0G1H150K |
| | ±5% | 0.6±0.15 | C2012C0G1H160J |
| 18 | ±5% | 0.6±0.15 | C2012C0G1H180J |
| | ±10% | 0.6±0.15 | C2012C0G1H180K |
| 20 | ±5% | 0.6±0.15 | C2012C0G1H200J |
| | ±5% | 0.6±0.15 | C2012C0G1H220J |
| 22 | ±10% | 0.6±0.15 | C2012C0G1H220K |
| | ±5% | 0.6±0.15 | C2012C0G1H240J |

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

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CAPACITANCE RANGES

CLASS 1 (TEMPERATURE COMPENSATION)

TEMPERATURE CHARACTERISTICS:

C0G(0±30ppm/°C)

RATED VOLTAGE Edc: 50V

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

TEMPERATURE CHARACTERISTICS:

SL(+350 to -1000ppm/°C)

RATED VOLTAGE Edc: 50V

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

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CAPACITANCE RANGES

CLASS 1 (TEMPERATURE COMPENSATION)

TEMPERATURE CHARACTERISTICS:

SL(+350 to -1000ppm/°C)

RATED VOLTAGE E_{dc}: 50V

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

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

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CAPACITANCE RANGES

CLASS 2 (TEMPERATURE STABLE)

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

RATED VOLTAGE Edc: 50V

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

RATED VOLTAGE Edc: 25V

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

RATED VOLTAGE Edc: 16V

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

MULTILAYER CERAMIC CHIP CAPACITORS

C series, C2012 [EIA CC0805] type

CAPACITANCE RANGES

CLASS 2 (TEMPERATURE STABLE)

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

RATED VOLTAGE Edc: 10V

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

RATED VOLTAGE Edc: 6.3V

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

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

RATED VOLTAGE Edc: 50V

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

RATED VOLTAGE Edc: 25V

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

RATED VOLTAGE Edc: 16V

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