

Ceramic Capacitors

For Smoothing SMD

C Series

FEATURES

- Providing capacitance values in the range of electrolytic types and long service life, this product is recommended for high-reliability power supply applications.
- Low ESR and excellent frequency characteristics make this capacitor a superior choice for high-frequency and high-density power supplies.

APPLICATIONS

DC to DC converters, switching power supplies.

PRODUCT IDENTIFICATION

C 3225 X7R 1E 105 M □
(1) (2) (3) (4) (5) (6) (7)

(1) Series name

(2) Dimensions L×W

| | |
|------|-----------|
| 3225 | 3.2×2.5mm |
| 4532 | 4.5×3.2mm |
| 5750 | 5.7×5.0mm |

(3) Capacitance temperature characteristics
Class 2

| Temperature characteristics | Capacitance change | Temperature range |
|-----------------------------|--------------------|-------------------|
| X7R | ±15% | -55 to +125°C |
| X5R | ±15% | -55 to +85°C |
| Y5V | +22, -82% | -30 to +85°C |

(4) Rated voltage E_{dc}

| | |
|----|------|
| 0J | 6.3V |
| 1A | 10V |
| 1C | 16V |
| 1E | 25V |
| 1H | 50V |

(5) Nominal capacitance

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

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

The third digit identifies the multiplier.

R designates a decimal point.

| | |
|-----|----------------|
| 105 | 1000000pF[1μF] |
|-----|----------------|

(6) Capacitance tolerance

| | |
|---|-----------|
| K | ±10% |
| M | ±20% |
| Z | +80, -20% |

(7) Packaging style

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

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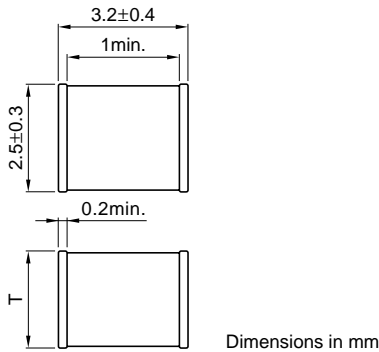
Ceramic Capacitors

For Smoothing

SMD

C Series

C3225 (EIA:CC1210) TYPE SHAPES AND DIMENSIONS



CAPACITANCE RANGES:

CLASS 2

TEMPERATURE CHARACTERISTICS: X7R(±15%), X5R(±15%)

RATED VOLTAGE Edc: 50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 680000 | ±10% | 1.6±0.2 | C3225X7R1H684K |
| | ±20% | 1.6±0.2 | C3225X7R1H684M |
| 1000000 | ±10% | 1.6±0.2 | C3225X7R1H105K |
| [1μF] | ±20% | 1.6±0.2 | C3225X7R1H105M |
| 1500000 | ±10% | 2.0±0.2 | C3225X7R1H155K |
| [1.5μF] | ±20% | 2.0±0.2 | C3225X7R1H155M |
| 2200000* | ±10% | 2.5±0.3 | C3225X5R1H225K |
| [2.5μF] | ±20% | 2.5±0.3 | C3225X5R1H225M |
| 3300000* | ±10% | 2.5±0.3 | C3225X5R1H335K |
| [3.3μF] | ±20% | 2.5±0.3 | C3225X5R1H335M |

* X5R only

RATED VOLTAGE Edc: 25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 3300000 | ±10% | 1.6±0.2 | C3225X7R1E335K |
| [3.3μF] | ±20% | 1.6±0.2 | C3225X7R1E335M |
| 4700000 | ±10% | 2.0±0.2 | C3225X7R1E475K |
| [4.7μF] | ±20% | 2.0±0.2 | C3225X7R1E475M |

RATED VOLTAGE Edc: 16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 6800000 | ±10% | 2.0±0.2 | C3225X5R1C685K |
| [6.8μF] | ±20% | 2.0±0.2 | C3225X5R1C685M |
| 10000000 | ±10% | 2.0±0.2 | C3225X5R1C106K |
| [10μF] | ±20% | 2.0±0.2 | C3225X5R1C106M |

TEMPERATURE CHARACTERISTICS: X5R(±15%)

RATED VOLTAGE Edc: 10V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 15000000 | ±20% | 2.3±0.2 | C3225X5R1A156M |
| [15μF] | | | |
| 22000000 | ±20% | 2.3±0.2 | C3225X5R1A226M |
| [22μF] | | | |

RATED VOLTAGE Edc: 6.3V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 22000000 | ±20% | 2.5±0.3 | C3225X5R0J226M |
| [22μF] | | | |
| 33000000 | ±20% | 2.5±0.3 | C3225X5R0J336M |
| [33μF] | | | |
| 47000000 | ±20% | 2.5±0.3 | C3225X5R0J476M |
| [47μF] | | | |

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

RATED VOLTAGE Edc:50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 4700000 | +80, -20% | 1.6±0.2 | C3225Y5V1H475Z |
| [4.7μF] | | | |

RATED VOLTAGE Edc:25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 10000000 | +80, -20% | 1.6±0.2 | C3225Y5V1E106Z |
| [10μF] | | | |

RATED VOLTAGE Edc:16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 22000000 | +80, -20% | 2.0±0.2 | C3225Y5V1C226Z |
| [22μF] | | | |

RATED VOLTAGE Edc:10V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 47000000 | +80, -20% | 2.0±0.2 | C3225Y5V1A476Z |
| [47μF] | | | |

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- For more information about products with other capacitance or other data, please contact us.
- Please contact us for the capacitance tolerance ±10% products over 10μF. with temperature characteristics B, X7R and X5R.

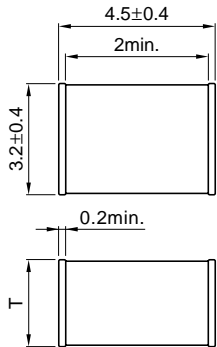
Ceramic Capacitors

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SMD

C Series

C4532 (EIA:CC1812) TYPE SHAPES AND DIMENSIONS



Dimensions in mm

CAPACITANCE RANGES:

CLASS 2

TEMPERATURE CHARACTERISTICS: X7R(±15%), X5R(±15%)

RATED VOLTAGE Edc: 50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|--------------|----------------|----------------------------------|
| 2200000 [2.2μF] | ±10% ±20% | 1.6±0.2 | C4532X7R1H225K C4532X7R1H225M |
| 3300000 [3.3μF] | ±10% ±20% | 2.0±0.2 | C4532X7R1H335K C4532X7R1H335M |

RATED VOLTAGE Edc: 25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|--------------|----------------|----------------------------------|
| 4700000 [4.7μF] | ±10% ±20% | 1.6±0.2 | C4532X7R1E475K C4532X7R1E475M |
| 6800000 [6.8μF] | ±10% ±20% | 2.0±0.2 | C4532X7R1E685K C4532X7R1E685M |
| 10000000 [10μF] | ±10% ±20% | 2.5±0.3 | C4532X7R1E106K C4532X7R1E106M |
| 15000000 [15μF] | ±20% | 2.8±0.3 | C4532X5R1E156M |

RATED VOLTAGE Edc: 16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|-----------|----------------|----------------|
| 15000000 [15μF] | ±20% | 2.5±0.3 | C4532X5R1C156M |
| 22000000 [22μF] | ±20% | 2.5±0.3 | C4532X5R1C226M |

TEMPERATURE CHARACTERISTICS: X5R(±15%)

RATED VOLTAGE Edc: 6.3V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|----------------------|-----------|----------------|----------------|
| 47000000 [47μF] | ±20% | 2.5±0.3 | C4532X5R0J476M |
| 68000000 [68μF] | ±20% | 2.8±0.3 | C4532X5R0J686M |
| 100000000 [100μF] | ±20% | 2.8±0.3 | C4532X5R0J107M |

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

RATED VOLTAGE Edc:50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|-----------|----------------|----------------|
| 10000000 [10μF] | +80, -20% | 2.0±0.2 | C4532Y5V1H106Z |

RATED VOLTAGE Edc:25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|-----------|----------------|----------------|
| 22000000 [22μF] | +80, -20% | 2.0±0.2 | C4532Y5V1E226Z |

RATED VOLTAGE Edc:16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|--------------------|-----------|----------------|----------------|
| 47000000 [47μF] | +80, -20% | 2.5±0.3 | C4532Y5V1C476Z |

RATED VOLTAGE Edc:10V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|----------------------|-----------|----------------|----------------|
| 100000000 [100μF] | +80, -20% | 2.5±0.3 | C4532Y5V1A107Z |

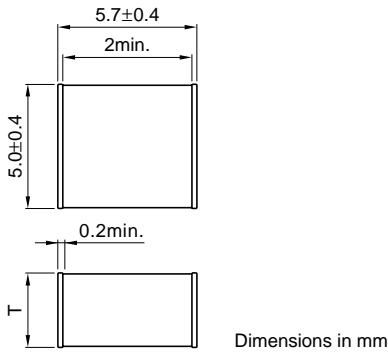
- For more information about products with other capacitance or other data, please contact us.
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Ceramic Capacitors

For Smoothing SMD

C Series

C5750 (EIA:CC2220) TYPE SHAPES AND DIMENSIONS



CAPACITANCE RANGES:

CLASS 2 (TEMPERATURE STABLE)

TEMPERATURE CHARACTERISTICS: X7R(±15%), X5R(±5%)

RATED VOLTAGE Edc: 50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 47000000 | ±10% | 2.0±0.2 | C5750X7R1H475K |
| [4.7μF] | ±20% | 2.0±0.2 | C5750X7R1H475M |
| 68000000 | ±10% | 2.5±0.3 | C5750X7R1H685K |
| [6.8μF] | ±20% | 2.5±0.3 | C5750X7R1H685M |
| 100000000* | ±10% | 2.3±0.2 | C5750X5R1H106K |
| [10μF] | ±20% | 2.3±0.2 | C5750X5R1H106M |

* X5R only

RATED VOLTAGE Edc: 25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 10000000 | ±10% | 2.0±0.2 | C5750X7R1E106K |
| [10μF] | ±20% | 2.0±0.2 | C5750X7R1E106M |
| 15000000 | ±20% | 2.3±0.2 | C5750X7R1E156M |
| [15μF] | ±20% | 2.3±0.2 | C5750X7R1E156M |
| 22000000 | ±20% | 2.5±0.3 | C5750X7R1E226M |
| [22μF] | ±20% | 2.5±0.3 | C5750X7R1E226M |

TEMPERATURE CHARACTERISTICS: X5R(±15%)

RATED VOLTAGE Edc: 16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 33000000 | ±20% | 2.0±0.2 | C5750X5R1C336M |
| [33μF] | ±20% | 2.0±0.2 | C5750X5R1C336M |
| 47000000 | ±20% | 2.3±0.2 | C5750X5R1C476M |
| [47μF] | ±20% | 2.3±0.2 | C5750X5R1C476M |

RATED VOLTAGE Edc: 10V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 68000000 | ±20% | 2.3±0.2 | C5750X5R1A686M |
| [68μF] | ±20% | 2.3±0.2 | C5750X5R1A686M |

RATED VOLTAGE Edc: 6.3V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 100000000 | ±20% | 2.8±0.3 | C5750X5R0J107M |
| [100μF] | ±20% | 2.8±0.3 | C5750X5R0J107M |

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

RATED VOLTAGE Edc:50V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 22000000 | +80, -20% | 2.0±0.2 | C5750Y5V1H226Z |
| [22μF] | +80, -20% | 2.0±0.2 | C5750Y5V1H226Z |

RATED VOLTAGE Edc:25V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 47000000 | +80, -20% | 2.0±0.2 | C5750Y5V1E476Z |
| [47μF] | +80, -20% | 2.0±0.2 | C5750Y5V1E476Z |

RATED VOLTAGE Edc:16V

| Capacitance (pF) | Tolerance | Thickness (mm) | Part No. |
|------------------|-----------|----------------|----------------|
| 100000000 | +80, -20% | 2.5±0.3 | C5750Y5V1C107Z |
| [100μF] | +80, -20% | 2.5±0.3 | C5750Y5V1C107Z |

- For more information about products with other capacitance or other data, please contact us.
- Please contact us for the capacitance tolerance ±10% products over 10μF with temperature characteristics B, X7R and X5R.

• All specifications are subject to change without notice.

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