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Please read this before using the product.

SAFETY REMINDERS

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8. The descriptions in this catalog apply as of April 2007.

General Multilayer Ceramic Chip Capacitors

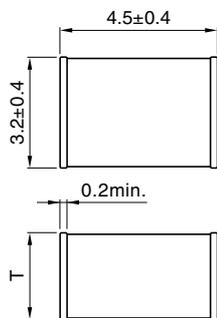
C Series C4532(EIA CC1812) Type

Conformity to RoHS Directive

FEATURES

- High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- A monolithic structure ensures superior mechanical strength and reliability.
- High-accuracy automatic mounting is facilitated through the maintenance of very precise dimensional tolerances.
- Composed of only ceramics and metals, these capacitors provide extremely dependable performance, exhibiting virtually no degradation even when subjected to temperature extremes.
- Low stray capacitance ensures high conformity with nominal values, thereby simplifying the circuit design process.
- Low residual inductance assures superior frequency characteristics.
- Because electrostatic capacity has been obtained up to the electrolytic capacitor range, these capacitors offer long service life and are optimally suited for power supply designs that require high levels of reliability.
- Owing to their low ESR and excellent frequency characteristics, these products are optimally suited for high frequency and high-density type power supplies.

SHAPES AND DIMENSIONS



PRODUCT IDENTIFICATION

C	4532	CH	1H	104	J	□
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W

4532	4.5×3.2mm
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(3) Capacitance temperature characteristics

Class 1 (Temperature compensation)

Temperature characteristics	Capacitance change	Temperature range
CH	0±60ppm/°C	-25 to +85°C
C0G	0±30ppm/°C	-55 to +125°C

Class 2 (Temperature stable and general purpose)

Temperature characteristics	Capacitance change	Temperature range
JB	±10%	-25 to +85°C
JF	+30, -80%	-25 to +85°C
X7R	±15%	-55 to +125°C
X5R	±15%	-55 to +85°C
Y5V	+22, -82%	-30 to +85°C

(4) Rated voltage E_{dc}

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.

010	1pF
100	10pF
102	1,000pF

(6) Capacitance tolerance

J	±5%
K	±10%
M	±20%
Z	+80, -20%

(7) Packaging style

T	Taping (reel)
B	Bulk

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

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CAPACITANCE RANGES: CLASS 1 (TEMPERATURE COMPENSATION)**TEMPERATURE CHARACTERISTICS: CH(0±60ppm/°C), C0G(0±30ppm/°C)**RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: CH	Temperature characteristics: C0G
47,000	±5%	1.6±0.15	C4532CH1H473J	C4532C0G1H473J
68,000	±5%	1.6±0.15	C4532CH1H683J	C4532C0G1H683J
100,000	±5%	2.0±0.2	C4532CH1H104J	C4532C0G1H104J
150,000	±5%	2.5±0.3	C4532CH1H154J	C4532C0G1H154J
220,000	±5%	3.2±0.3	C4532CH1H224J	C4532C0G1H224J

CAPACITANCE RANGES: CLASS 2**TEMPERATURE CHARACTERISTICS: JB(±10%), X5R/X7R(±15%)**RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
1,500,000	±10%	1.6±0.15	C4532JB1H155K	C4532X5R1H155K	C4532X7R1H155K
	±20%	1.6±0.15	C4532JB1H155M	C4532X5R1H155M	C4532X7R1H155M
2,200,000	±10%	1.6±0.15	C4532JB1H225K	C4532X5R1H225K	C4532X7R1H225K
	±20%	1.6±0.15	C4532JB1H225M	C4532X5R1H225M	C4532X7R1H225M
3,300,000	±10%	2.0±0.20	C4532JB1H335K	C4532X5R1H335K	C4532X7R1H335K
	±20%	2.0±0.20	C4532JB1H335M	C4532X5R1H335M	C4532X7R1H335M
4,700,000	±10%	2.3±0.20	C4532JB1H475K	C4532X5R1H475K	C4532X7R1H475K
	±20%	2.3±0.20	C4532JB1H475M	C4532X5R1H475M	C4532X7R1H475M
6,800,000	±10%	2.5±0.30	C4532JB1H685K	C4532X5R1H685K	C4532X7R1H685K
	±20%	2.5±0.30	C4532JB1H685M	C4532X5R1H685M	C4532X7R1H685M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
10,000,000	±10%	2.5±0.30	C4532JB1E106K	C4532X5R1E106K	C4532X7R1E106K
	±20%	2.5±0.30	C4532JB1E106M	C4532X5R1E106M	C4532X7R1E106M
15,000,000	±20%	2.5±0.30	C4532JB1E156M	C4532X5R1E156M	C4532X7R1E156M
22,000,000	±20%	2.5±0.30	C4532JB1E226M	C4532X5R1E226M	C4532X7R1E226M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
22,000,000	±20%	2.0±0.20	C4532JB1C226M	C4532X5R1C226M	C4532X7R1C226M
33,000,000	±20%	2.5±0.30	C4532JB1C336M	C4532X5R1C336M	C4532X7R1C336M

TEMPERATURE CHARACTERISTICS: X5R/X7R(±15%)RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: X5R	Temperature characteristics: X7R
4,700,000	±10%	2.0±0.20	C4532X5R1H475K	C4532X7R1H475K
	±20%	2.0±0.20	C4532X5R1H475M	C4532X7R1H475M
6,800,000	±10%	2.5±0.30	C4532X5R1H685K	C4532X7R1H685K
	±20%	2.5±0.30	C4532X5R1H685M	C4532X7R1H685M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: X5R	Temperature characteristics: X7R
15,000,000	±20%	2.8±0.30	C4532X5R1E156M	C4532X7R1E156M
22,000,000	±20%	2.5±0.30	C4532X5R1E226M	C4532X7R1E226M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: X5R	Temperature characteristics: X7R
15,000,000	±20%	2.0±0.20	C4532X5R1C156M	C4532X7R1C156M

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

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No. Temperature characteristics: JF	Temperature characteristics: Y5V
10,000,000	+80,-20%	2.0±0.20	C4532JF1H106Z	C4532Y5V1H106Z

RATED VOLTAGE Edc: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No. Temperature characteristics: JF	Temperature characteristics: Y5V
22,000,000	+80,-20%	2.0±0.20	C4532JF1E226Z	C4532Y5V1E226Z

RATED VOLTAGE Edc: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No. Temperature characteristics: JF	Temperature characteristics: Y5V
47,000,000	+80,-20%	2.5±0.30	C4532JF1C476Z	C4532Y5V1C476Z

RATED VOLTAGE Edc: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No. Temperature characteristics: JF	Temperature characteristics: Y5V
100,000,000	+80,-20%	2.5±0.30	C4532JF1A107Z	C4532Y5V1A107Z

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

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