

Multilayer Ceramic Chip Capacitors

4-element array type

CKC series

Type: **CKCA43**
 CKCL44

Issue date: April 2007

- All specifications are subject to change without notice.
 - 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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REMINDERS

Please read this before using the product.

SAFETY REMINDERS

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

4-Element Multilayer Ceramic Chip Capacitor Array

CKC Series CKCA43 Type

Conformity to RoHS Directive

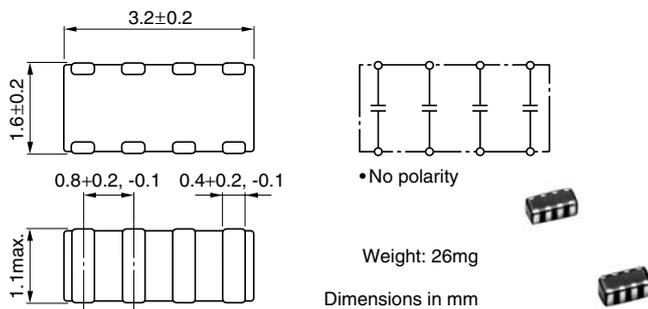
FEATURES

- The CKC Series are integrated, single-chip, 4-element capacitors that are highly effective in EMC countermeasure applications.
- They are particularly effective when used as a bypass for digital signal line noise, thereby preventing EMC around connectors.

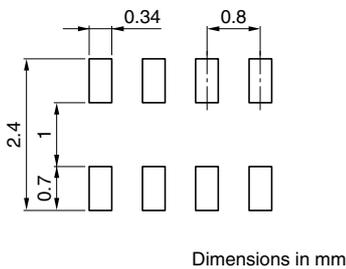
APPLICATIONS

For use as a bypass for digital and analog signal line noise generated by telecommunications equipment and other common electronic circuits.

SHAPES AND DIMENSIONS/CIRCUIT DIAGRAM



RECOMMENDED PC BOARD PATTERN



PRODUCT IDENTIFICATION

CKC	A43	JB	1C	104	M	□
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W

A43	3.2×1.6mm
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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
X7R	±15%	-55 to +125°C
X5R	±15%	-55 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.

100	10pF
104	100,000pF

(6) Capacitance tolerance

F	±1pF
K	±10%
M	±20%

(7) Packaging style

T	Taping (reel)
B	Bulk

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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
10	±1pF	1.10max.	CKCA43CH1H100F	CKCA43C0G1H100F
15	±10%	1.10max.	CKCA43CH1H150K	CKCA43C0G1H150K
22	±10%	1.10max.	CKCA43CH1H220K	CKCA43C0G1H220K
33	±10%	1.10max.	CKCA43CH1H330K	CKCA43C0G1H330K
47	±10%	1.10max.	CKCA43CH1H470K	CKCA43C0G1H470K
68	±10%	1.10max.	CKCA43CH1H680K	CKCA43C0G1H680K
100	±10%	1.10max.	CKCA43CH1H101K	CKCA43C0G1H101K
150	±10%	1.10max.	CKCA43CH1H151K	CKCA43C0G1H151K
220	±10%	1.10max.	CKCA43CH1H221K	CKCA43C0G1H221K
330	±10%	1.10max.	CKCA43CH1H331K	CKCA43C0G1H331K
470	±10%	1.10max.	CKCA43CH1H471K	CKCA43C0G1H471K
680	±10%	1.10max.	CKCA43CH1H681K	CKCA43C0G1H681K
1,000	±10%	1.10max.	CKCA43CH1H102K	CKCA43C0G1H102K

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
470	±20%	1.10max.	CKCA43JB1H471M	CKCA43X5R1H471M	CKCA43X7R1H471M
1,000	±20%	1.10max.	CKCA43JB1H102M	CKCA43X5R1H102M	CKCA43X7R1H102M
2,200	±20%	1.10max.	CKCA43JB1H222M	CKCA43X5R1H222M	CKCA43X7R1H222M
4,700	±20%	1.10max.	CKCA43JB1H472M	CKCA43X5R1H472M	CKCA43X7R1H472M
10,000	±20%	1.10max.	CKCA43JB1H103M	CKCA43X5R1H103M	CKCA43X7R1H103M
22,000	±20%	1.10max.	CKCA43JB1H223M	CKCA43X5R1H223M	CKCA43X7R1H223M

 RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
47,000	±20%	1.10max.	CKCA43JB1E473M	CKCA43X5R1E473M	CKCA43X7R1E473M

 RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
100,000	±20%	1.10max.	CKCA43JB1C104M	CKCA43X5R1C104M	CKCA43X7R1C104M
220,000	±20%	1.10max.	CKCA43JB1C224M	CKCA43X5R1C224M	CKCA43X7R1C224M

TEMPERATURE CHARACTERISTICS: JB(±10%), X5R(±15%)

 RATED VOLTAGE E_{dc}: 10V

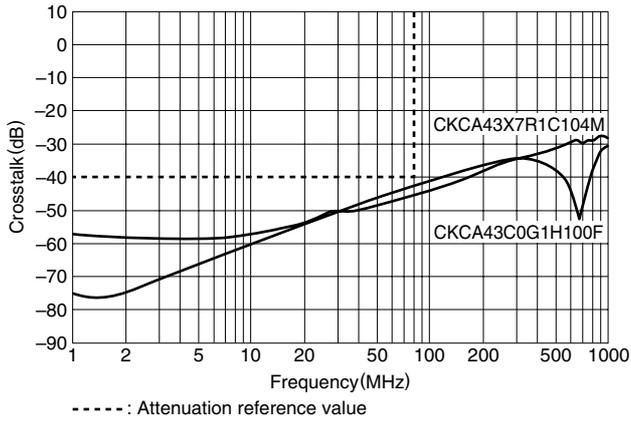
Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
470,000	±20%	1.10max.	CKCA43JB1A474M	CKCA43X5R1A474M

 RATED VOLTAGE E_{dc}: 6.3V

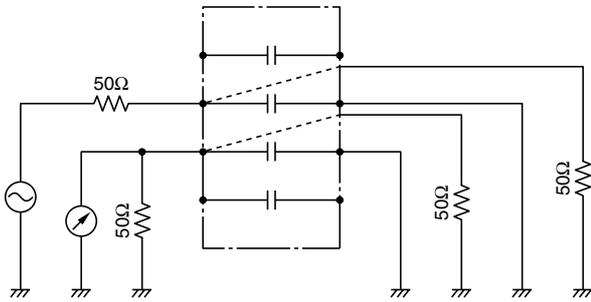
Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
1,000,000	±20%	1.10max.	CKCA43JB0J105M	CKCA43X5R0J105M

TYPICAL ELECTRICAL CHARACTERISTICS

CROSSTALK CHARACTERISTICS



MEASURING CIRCUIT



- Measurement were performed by wiring this product onto a printed circuit board configured as in the diagram above.

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CKC Series CKCL44 Type

Conformity to RoHS Directive

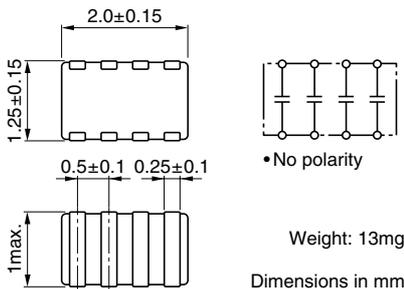
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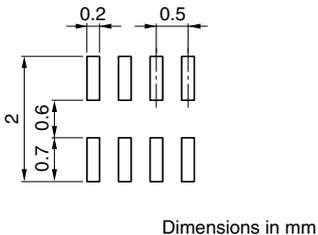
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RECOMMENDED PC BOARD PATTERN



PRODUCT IDENTIFICATION

CKC	L44	CH	1H	100	F	□
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series name

(2) Dimensions L×W

L44	2.0×1.25mm
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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
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X5R	±15%	-55 to +85°C

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R designates a decimal point.

100	10pF
104	100,000pF

(6) Capacitance tolerance

F	±1pF
K	±10%
M	±20%

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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
10	±1pF	1.00max.	CKCL44CH1H100F	CKCL44C0G1H100F
15	±10%	1.00max.	CKCL44CH1H150K	CKCL44C0G1H150K
22	±10%	1.00max.	CKCL44CH1H220K	CKCL44C0G1H220K
33	±10%	1.00max.	CKCL44CH1H330K	CKCL44C0G1H330K
47	±10%	1.00max.	CKCL44CH1H470K	CKCL44C0G1H470K
68	±10%	1.00max.	CKCL44CH1H680K	CKCL44C0G1H680K
100	±10%	1.00max.	CKCL44CH1H101K	CKCL44C0G1H101K
150	±10%	1.00max.	CKCL44CH1H151K	CKCL44C0G1H151K

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
220	±20%	1.00max.	CKCL44JB1H221M	CKCL44X5R1H221M	CKCL44X7R1H221M
470	±20%	1.00max.	CKCL44JB1H471M	CKCL44X5R1H471M	CKCL44X7R1H471M
1,000	±20%	1.00max.	CKCL44JB1H102M	CKCL44X5R1H102M	CKCL44X7R1H102M
2,200	±20%	1.00max.	CKCL44JB1H222M	CKCL44X5R1H222M	CKCL44X7R1H222M
4,700	±20%	1.00max.	CKCL44JB1H472M	CKCL44X5R1H472M	CKCL44X7R1H472M

 RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
10,000	±20%	1.00max.	CKCL44JB1E103M	CKCL44X5R1E103M	CKCL44X7R1E103M

 RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.		
			Temperature characteristics: JB	Temperature characteristics: X5R	Temperature characteristics: X7R
22,000	±20%	1.00max.	CKCL44JB1C223M	CKCL44X5R1C223M	CKCL44X7R1C223M

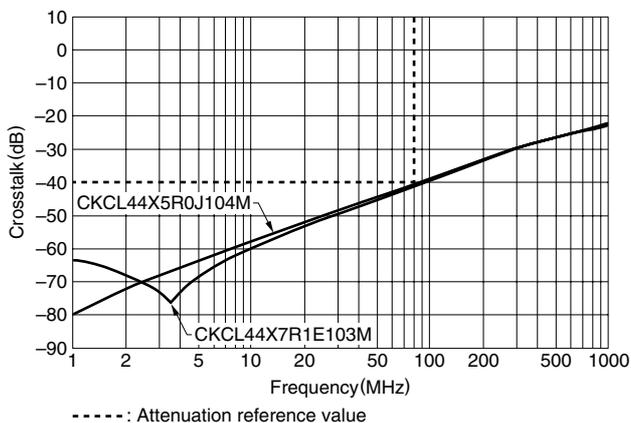
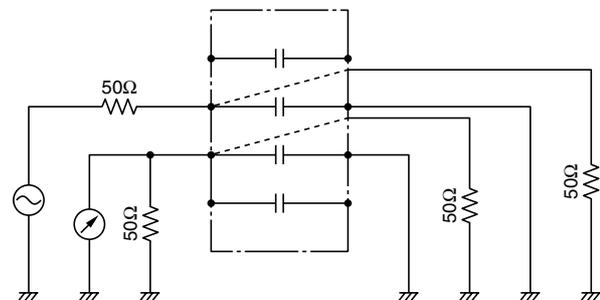
TEMPERATURE CHARACTERISTICS: JB(±10%), X5R(±15%)

 RATED VOLTAGE E_{dc}: 10V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
47,000	±20%	1.00max.	CKCL44JB1A473M	CKCL44X5R1A473M

 RATED VOLTAGE E_{dc}: 6.3V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.	
			Temperature characteristics: JB	Temperature characteristics: X5R
100,000	±20%	1.00max.	CKCL44JB0J104M	CKCL44X5R0J104M

TYPICAL ELECTRICAL CHARACTERISTICS
CROSSTALK CHARACTERISTICS

MEASURING CIRCUIT


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