MULTILAYER CERAMIC CHIP CAPACITORS



CKC Series
Commercial Grade
4 in 1 Array

Type: CKCL44 [EIA CC0805]
CKCA43 [EIA CC1206]

Issue date:
January 2013

Version A13

REMINDERS

Please read before using this product

SAFETY REMINDERS

REMINDERS

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Notice : Effective January 2013, TDK will use a new catalog part number which adds product thickness and packaging specification detail. This new part number should be referenced on all catalog orders going forward, and is not applicable for OEM part number orders. Please be aware the last five digits of the TDK catalog part number will differ from the TDK item description (internal control number) on the product label. Contact your local TDK Sales representative for more information.

(Example)

Catalog Issued date	TDK Part Number (In Catalog)	TDK Item Description (On Delivery Label)
Prior to January 2013	C1608C0G1E103J	C1608C0G1E103JT000N
January 2013 and Later	C1608C0G1E103J080AA	C1608C0G1E103JT000N



CKC Series

4in1 Array Capacitors

Type: CKCL44 [EIA CC0805], CKCA43 [EIA CC1206]

Lead Free · RoHS COMPLIANT · Ecological

Features



- Multiple capacitors are fitted in a single product, contributing to reduced installation costs.
- The electrostatic capacity range and shape are designed to meet the demands of the cellular phone market.
- Unique electrode construction reduces crosstalk.

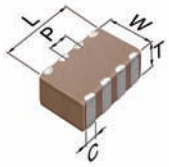
Applications



- Cellular telephone interface
- Interface cable circuit
- PC and peripherals
- CPU bus line
- High frequency circuit
- Noise bypass circuit

Shape & Dimensions



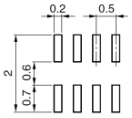


L	Body Length
W	Body Width
T	Body Height
C	Terminal Width
P	Terminal Spacing

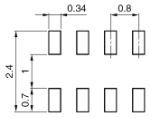
PC Board Pattern



CKCL44



CKCA43



Dimensions in mm

Part Number Construction

CKC • A43 • X5R • 0J • 105 • M • 100 • A • A

Series Name

Dimensions L x W (mm)

Code	Length	Width
L44	2.00 ± 0.15	1.25 ± 0.15
A43	3.20 ± 0.20	1.60 ± 0.15

Temperature Characteristics

Temperature Characteristics	Capacitance Change	Temperature Range
C0G	0±30 ppm/°C	-55 to +125°C
CH	0±60 ppm/°C	-25 to +85°C
JB	±10%	-25 to +85°C
X5R	±15%	-55 to +85°C
X7R	±15%	-55 to +125°C

Rated Voltage (DC)

Code	Voltage (DC)
0J	6.3V
1A	10V
1C	16V
1E	25V
1H	50V

Nominal Capacitance (pF)

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.

Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF = 1µF

Capacitance Tolerance

Code	Tolerance
F	± 1pF
K	± 10%
M	± 20%

Nominal Thickness

Code	Thickness
085	0.85 mm
100	1.00 mm

Packaging Style

Code	Style
A	178” Reel, 4mm Pitch

Special Reserved Code

Code	Description
A	TDK Internal Code

• All specifications are subject to change without notice.

Capacitance Range Chart

CKCL44(C2012) [EIA CC0805]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/ºC), CH (0 ± 60ppm/ºC), JB (± 10%), X5R (± 15%), X7R (± 15%)
Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance (pF)	Code	Tolerance	C0G	CH	JB				
			1H (50V)	1H (50V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
10	100	F: ± 1pF K: ± 10%	■	■					
15	150		■	■					
22	220		■	■					
33	330		■	■					
47	470		■	■					
68	680		■	■					
100	101		■	■					
150	151		■	■					
220	221				■				
470	471				■				
1,000	102				■				
2,200	222				■				
4,700	472				■				
10,000	103					■			
22,000	223						■		
47,000	473							■	
100,000	104								■

Capacitance (pF)	Code	Tolerance	X5R					X7R		
			1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)
220	221	M: ± 20%	■					■		
470	471		■					■		
1,000	102		■					■		
2,200	222		■					■		
4,700	472		■					■		
10,000	103			■					■	
22,000	223				■					■
47,000	473					■				
100,000	104						■			

Standard Thickness
■ 0.85 mm

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Capacitance Range Chart

CKCA43(C3216) [EIA CC1206]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/ºC), CH (0 ± 60ppm/ºC), JB (± 10%), X5R (± 15%), X7R (± 15%)
Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance (pF)	Code	Tolerance	C0G	CH
			1H (50V)	1H (50V)
10	100	F: ± 1pF K: ± 10%		
15	150			
22	220			
33	330			
47	470			
68	680			
100	101			
150	151			
220	221			
330	331			
470	471			
680	681			
1,000	102			

Capacitance (pF)	Code	Tolerance	JB				X5R				X7R		
			1H (50V)	1E (25V)	1C (16V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)
470	471	M: ± 20%											
1,000	102												
2,200	222												
4,700	472												
10,000	103												
22,000	223												
47,000	473												
100,000	104												
1,000,000	105												

Standard Thickness

1.00 mm

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Capacitance Range Table

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to +125ºC, 0±30 ppm/ºC)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
10 pF	2012	0.85 ± 0.15	± 1%	CKCL44C0G1H100F085AA			
	3216	1.00 ± 0.15	± 1%	CKCA43C0G1H100F100AA			
15 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H150K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H150K100AA			
22 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H220K085AA			
	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H220K100AA			
33 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H330K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H330K100AA			
47 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H470K085AA			
	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H470K100AA			
68 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H680K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H680K100AA			
100 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H101K085AA			
	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H101K100AA			
150 pF	2012	0.85 ± 0.15	± 10%	CKCL44C0G1H151K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H151K100AA			
220 pF	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H221K100AA			
330 pF	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H331K100AA			
470 pF	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H471K100AA			
680 pF	3216	1.00 ± 0.10	± 10%	CKCA43C0G1H681K100AA			
1 nF	3216	1.00 ± 0.15	± 10%	CKCA43C0G1H102K100AA			

Class 1 (Temperature Compensating)

Temperature Characteristics: CH (-25 to +85ºC, 0±60 ppm/ºC)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
10 pF	2012	0.85 ± 0.15	± 1%	CKCL44CH1H100F085AA			
	3216	1.00 ± 0.10	± 1%	CKCA43CH1H100F100AA			
15 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H150K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H150K100AA			
22 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H220K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H220K100AA			
33 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H330K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H330K100AA			
47 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H470K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H470K100AA			
68 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H680K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H680K100AA			
100 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H101K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H101K100AA			
150 pF	2012	0.85 ± 0.15	± 10%	CKCL44CH1H151K085AA			
	3216	1.00 ± 0.10	± 10%	CKCA43CH1H151K100AA			
220 pF	3216	1.00 ± 0.10	± 10%	CKCA43CH1H221K100AA			
330 pF	3216	1.00 ± 0.10	± 10%	CKCA43CH1H331K100AA			
470 pF	3216	1.00 ± 0.10	± 10%	CKCA43CH1H471K100AA			
680 pF	3216	1.00 ± 0.10	± 10%	CKCA43CH1H681K100AA			
1 nF	3216	1.00 ± 0.10	± 10%	CKCA43CH1H102K100AA			

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Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: JB (-25 to +85ºC, ±10%)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
220 pF	2012	0.85 ± 0.15	± 20%	CKCL44JB1H221M085AA			
470 pF	2012	0.85 ± 0.15	± 20%	CKCL44JB1H471M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H471M100AA			
1 nF	2012	0.85 ± 0.15	± 20%	CKCL44JB1H102M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H102M100AA			
2.2 nF	2012	0.85 ± 0.15	± 20%	CKCL44JB1H222M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H222M100AA			
4.7 nF	2012	0.85 ± 0.15	± 20%	CKCL44JB1H472M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H472M100AA			
10 nF	2012	0.85 ± 0.15	± 20%		CKCL44JB1E103M085AA		
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H103M100AA			
22 nF	2012	0.85 ± 0.15	± 20%			CKCL44JB1C223M085AA	
	3216	1.00 ± 0.15	± 20%	CKCA43JB1H223M100AA			
47 nF	2012	0.85 ± 0.15	± 20%				CKCL44JB1A473M085AA
	3216	1.00 ± 0.15	± 20%		CKCA43JB1E473M100AA		
100 nF	3216	1.00 ± 0.15	± 20%			CKCA43JB1C104M100AA	

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number
				Rated Voltage Edc: 6.3V
100 nF	2012	0.85 ± 0.15	± 20%	CKCL44JB0J104M085AA
1 µF	3216	1.00 ± 0.15	± 20%	CKCA43JB0J105M100AA

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85ºC, ±15%)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
220 pF	2012	0.85 ± 0.15	± 20%	CKCL44X5R1H221M085AA			
470 pF	2012	0.85 ± 0.15	± 20%	CKCL44X5R1H471M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H471M100AA			
1 nF	2012	0.85 ± 0.15	± 20%	CKCL44X5R1H102M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H102M100AA			
2.2 nF	2012	0.85 ± 0.15	± 20%	CKCL44X5R1H222M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H222M100AA			
4.7 nF	2012	0.85 ± 0.15	± 20%	CKCL44X5R1H472M085AA			
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H472M100AA			
10 nF	2012	0.85 ± 0.15	± 20%		CKCL44X5R1E103M085AA		
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H103M100AA			
22 nF	2012	0.85 ± 0.15	± 20%			CKCL44X5R1C223M085AA	
	3216	1.00 ± 0.15	± 20%	CKCA43X5R1H223M100AA			
47 nF	2012	0.85 ± 0.15	± 20%				CKCL44X5R1A473M085AA
	3216	1.00 ± 0.15	± 20%		CKCA43X5R1E473M100AA		
100 nF	2012	0.85 ± 0.15	± 20%				
	3216	1.00 ± 0.15	± 20%			CKCA43X5R1C104M100AA	
1 µF	3216	1.00 ± 0.15	± 20%				

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number
				Rated Voltage Edc: 6.3V
100 nF	2012	0.85 ± 0.15	± 20%	CKCL44X5R0J104M085AA
1 µF	3216	1.00 ± 0.15	± 20%	CKCA43X5R0J105M100AA

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Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125ºC, ±15%)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	TDK Part Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V	Rated Voltage Edc: 10V
220 pF	2012	0.85 ± 0.15	± 20%	CKCL44X7R1H221M085AA			
470 pF	2012	0.85 ± 0.15	± 20%	CKCL44X7R1H471M085AA			
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H471M100AA			
1 nF	2012	0.85 ± 0.15	± 20%	CKCL44X7R1H102M085AA			
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H102M100AA			
2.2 nF	2012	0.85 ± 0.15	± 20%	CKCL44X7R1H222M085AA			
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H222M100AA			
4.7 nF	2012	0.85 ± 0.15	± 20%	CKCL44X7R1H472M085AA			
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H472M100AA			
10 nF	2012	0.85 ± 0.15	± 20%		CKCL44X7R1E103M085AA		
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H103M100AA			
22 nF	2012	0.85 ± 0.15	± 20%			CKCL44X7R1C223M085AA	
	3216	1.00 ± 0.30	± 20%	CKCA43X7R1H223M100AA			
47 nF	3216	1.00 ± 0.30	± 20%		CKCA43X7R1E473M100AA		
100 nF	3216	1.00 ± 0.30	± 20%			CKCA43X7R1C104M100AA	

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