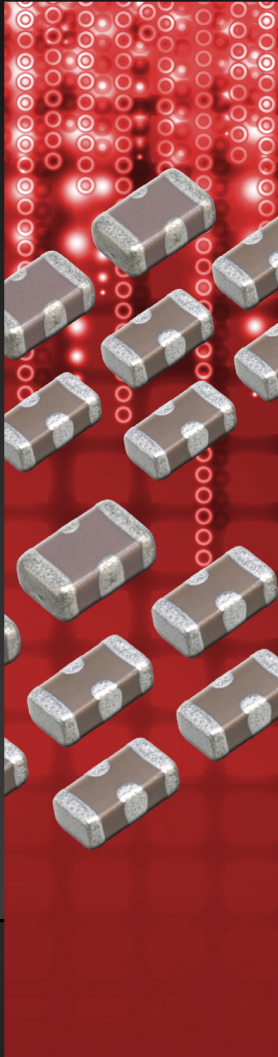




# MULTILAYER CERAMIC CHIP CAPACITORS



## **CER Series Controlled ESR Capacitors**

Type: CERB (C1608)  
CERD (C2012)

Issue date: January 2011

**TDK MLCC  
US Catalog**

Version A11

# REMINDERS

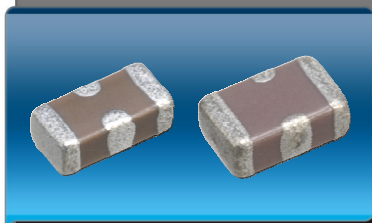
Please read before using this product

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## CER Series Controlled ESR Capacitors

Type: CERB (C1608), CERD (C2012)

### Features



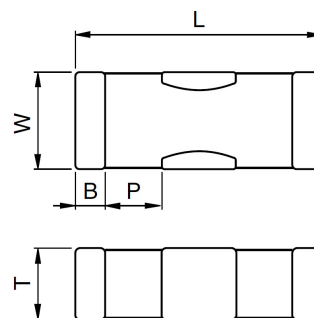
- This is a ceramic chip capacitor with the additional function of controlling (assures design of) the ESR (Equivalent Series Resistance) value as desired.
- This function enables control of voltage change, which can occur between the power source and the CPU, by controlling the impedance of capacitors located around the CPU.
- This enables a reduction in the number of parts used and contributes to cost savings, set downsizing, and upgrading quality.
- The replacement of existing products is easy because the mounting method is the same as products with two terminals.

### Applications



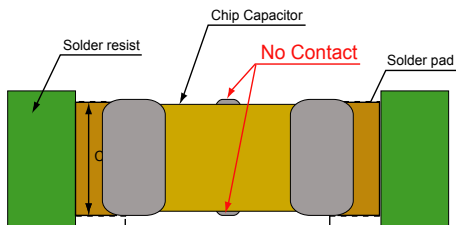
- PC server
- Power decoupling and smoothing
- Voltage regulator
- Output filters
- Plane termination
- USB damping circuit
- Tantalum capacitor replacement

### Shape & Dimensions



Dimensions in mm

### PC Board Pattern



Symbol	CERB	CERD
A	1.10 mm	1.30 mm
B	0.50 mm	0.70 mm
C	0.80 mm	1.30 mm



### Part Number Construction

#### Series Name

Case Code	Length	Width
CERB	1.60 ± 0.20	0.80 ± 0.10
CERD	2.00 ± 0.20	1.25 ± 0.20

#### ESR Code

Code	ESR	Code	ESR
1C	20mΩ	2C	200mΩ
1F	35mΩ	2J	500mΩ
1J	50mΩ	2M	650mΩ
2A	100mΩ	3U	1,200mΩ

#### Temperature Characteristic

Temperature Characteristics	Capacitance Change	Temperature Range
X5R	±15%	-55 to +85°C

#### Rated Voltage (DC)

Voltage Code	Voltage(DC)
0G	4V

CERD 2J X5R 0G 106 M T XXXX

#### Internal Codes

##### Packaging Style

Packaging Code	Style
T	Tape and Reel

##### Capacitance Tolerance

Tolerance Code	Tolerance
M	± 20%

##### 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.

Capacitance Code	Capacitance
105	1,000,000pF (1μF)
106	10,000,000pF (10μF)



## Capacitance Range Table

## CERB [EIA CC0603]

### Class 2 (Temperature Stable)

Temperature Characteristics: X5R ( $\pm 15\%$ )

TDK Part Number (Ordering Code)	ESR	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CERB2CX5R0G105M	200 m $\Omega$ $\pm$ 30%	X5R	4V	1,000,000	$\pm$ 20%	0.80 $\pm$ 0.10
CERB2MX5R0G105M	650 m $\Omega$ $\pm$ 30%	X5R	4V	1,000,000	$\pm$ 20%	0.80 $\pm$ 0.10
CERB3UX5R0G105M	1,200 m $\Omega$ $\pm$ 30%	X5R	4V	1,000,000	$\pm$ 20%	0.80 $\pm$ 0.10



## Capacitance Range Table

## CERD [EIA CC0805]

### Class 2 (Temperature Stable)

Temperature Characteristics: X5R ( $\pm 15\%$ )

TDK Part Number (Ordering Code)	ESR	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CERD1CX5R0G106M	20 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15
CERD1FX5R0G106M	35 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15
CERD1JX5R0G106M	50 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15
CERD2AX5R0G106M	100 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15
CERD2CX5R0G106M	200 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15
CERD2JX5R0G106M	500 m $\Omega$ $\pm$ 30%	X5R	4V	10,000,000	$\pm$ 20%	0.85 $\pm$ 0.15