

Multilayer Ceramic Chip Capacitors

2-chip piled type

CKG series

Type: **CKG32K**
 CKG45K
 CKG45N
 CKG57K
 CKG57N

Issue date: September 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

REMINDERS

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

2-chip Piled Multilayer Ceramic Capacitors

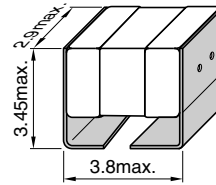
CKG Series CKG32K Type

Conformity to RoHS Directive

FEATURES

- No polarity.
- Twice the capacitance is obtainable on a single capacitor space.
- Unique construction provides high reliability.
- The metal caps absorbs stress from thermal and mechanical shocks, ensuring excellent performance on aluminum circuit substrates.
- Low ESR and ESL promises excellent characteristics for high frequency switching power supply.

CASE SIZE



Dimensions in mm

APPLICATIONS

Smoothing circuits, temperature variable applications,
Maintenance free power supplies, DC to DC converters, automotive applications.

CAPACITANCE RANGES: CLASS 2

TEMPERATURE CHARACTERISTICS: X7R($\pm 15\%$)

RATED VOLTAGE E_{dc}: 630V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
47,000	$\pm 20\%$	3.45max.	CKG32KX7R2J473M

RATED VOLTAGE E_{dc}: 250V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
100,000	$\pm 20\%$	3.45max.	CKG32KX7R2E104M
220,000	$\pm 20\%$	3.45max.	CKG32KX7R2E224M

RATED VOLTAGE E_{dc}: 100V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
470,000	$\pm 20\%$	3.45max.	CKG32KX7R2A474M
1,000,000	$\pm 20\%$	3.45max.	CKG32KX7R2A105M

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
1,000,000	$\pm 20\%$	3.45max.	CKG32KX7R1H105M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
4,700,000	$\pm 20\%$	3.45max.	CKG32KX7R1E475M
10,000,000	$\pm 20\%$	3.45max.	CKG32KX7R1E106M

- For more information about the products of other capacitance or data, please contact us.
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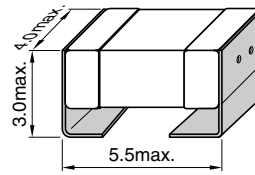
CKG Series CKG45K Type

Conformity to RoHS Directive

FEATURES

- No polarity.
- Twice the capacitance is obtainable on a single capacitor space.
- Unique construction provides high reliability.
- The metal caps absorbs stress from thermal and mechanical shocks, ensuring excellent performance on aluminum circuit substrates.
- Low ESR and ESL promises excellent characteristics for high frequency switching power supply.

CASE SIZE



Dimensions in mm

APPLICATIONS

Smoothing circuits, temperature variable applications,
Maintenance free power supplies, DC to DC converters, automotive applications.

CAPACITANCE RANGES: CLASS 2

TEMPERATURE CHARACTERISTICS: X7R(±15%)

RATED VOLTAGE E_{dc}: 630V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
100,000	±20%	3.0max.	CKG45KX7R2J104M

RATED VOLTAGE E_{dc}: 250V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
220,000	±20%	3.0max.	CKG45KX7R2E224M
470,000	±20%	3.0max.	CKG45KX7R2E474M

RATED VOLTAGE E_{dc}: 100V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
1,000,000	±20%	3.0max.	CKG45KX7R2A105M
2,200,000	±20%	3.0max.	CKG45KX7R2A225M

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
1,500,000	±20%	3.0max.	CKG45KX7R1H155M
3,300,000	±20%	3.0max.	CKG45KX7R1H335M
4,700,000	±20%	3.0max.	CKG45KX7R1H475M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
4,700,000	±20%	3.0max.	CKG45KX7R1E475M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
10,000,000	±20%	3.0max.	CKG45KX7R1C106M
22,000,000	±20%	3.0max.	CKG45KX7R1C226M

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CKG Series CKG45N Type

Conformity to RoHS Directive

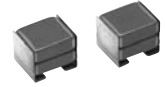
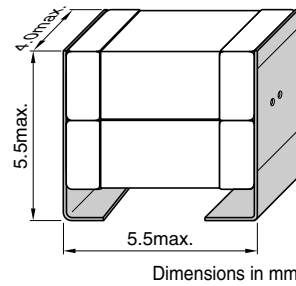
FEATURES

- No polarity.
- Twice the capacitance is obtainable on a single capacitor space.
- Unique construction provides high reliability.
- The metal caps absorbs stress from thermal and mechanical shocks, ensuring excellent performance on aluminum circuit substrates.
- Low ESR and ESL promises excellent characteristics for high frequency switching power supply.

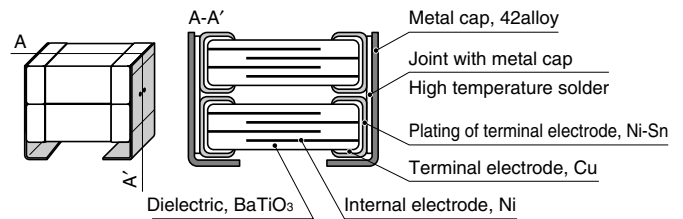
APPLICATIONS

Smoothing circuits, temperature variable applications,
Maintenance free power supplies, DC to DC converters, automotive applications.

CASE SIZE



INTERNAL CONSTRUCTION



CAPACITANCE RANGES: CLASS 2

TEMPERATURE CHARACTERISTICS: X5R(±15%)

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
10,000,000	±20%	5.5max.	CKG45NX5R1H106M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
47,000,000	±20%	5.5max.	CKG45NX5R1C476M

TEMPERATURE CHARACTERISTICS: X7R(±15%)

RATED VOLTAGE E_{dc}: 630V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
220,000	±20%	5.5max.	CKG45NX7R2J224M

RATED VOLTAGE E_{dc}: 250V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
470,000	±20%	5.5max.	CKG45NX7R2E474M
1,000,000	±20%	5.5max.	CKG45NX7R2E105M

RATED VOLTAGE E_{dc}: 100V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
2,200,000	±20%	5.5max.	CKG45NX7R2A225M
4,700,000	±20%	5.5max.	CKG45NX7R2A475M

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
3,300,000	±20%	5.5max.	CKG45NX7R1H335M
6,800,000	±20%	5.5max.	CKG45NX7R1H685M

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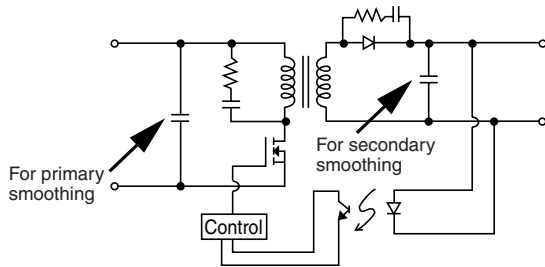
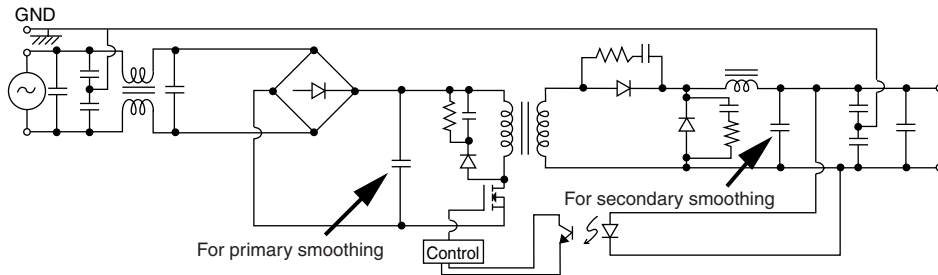
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RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
10,000,000	±20%	5.5max.	CKG45NX7R1E106M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
22,000,000	±20%	5.5max.	CKG45NX7R1C226M

TYPICAL APPLICATION EXAMPLES
DC TO DC CONVERTER

SWITCHING POWER SUPPLY


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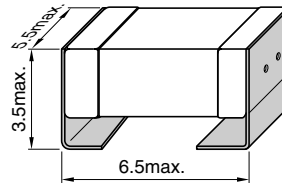
CKG Series CKG57K Type

Conformity to RoHS Directive

FEATURES

- No polarity.
- Twice the capacitance is obtainable on a single capacitor space.
- Unique construction provides high reliability.
- The metal caps absorbs stress from thermal and mechanical shocks, ensuring excellent performance on aluminum circuit substrates.
- Low ESR and ESL promises excellent characteristics for high frequency switching power supply.

CASE SIZE



Dimensions in mm

APPLICATIONS

Smoothing circuits, temperature variable applications,
Maintenance free power supplies, DC to DC converters, automotive applications.

CAPACITANCE RANGES: CLASS 2

TEMPERATURE CHARACTERISTICS: X7R(±15%)

RATED VOLTAGE E_{dc}: 630V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
220,000	±20%	3.5max.	CKG57KX7R2J224M

RATED VOLTAGE E_{dc}: 250V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
470,000	±20%	3.5max.	CKG57KX7R2E474M
1,000,000	±20%	3.5max.	CKG57KX7R2E105M

RATED VOLTAGE E_{dc}: 100V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
1,000,000	±20%	3.5max.	CKG57KX7R2A105M
2,200,000	±20%	3.5max.	CKG57KX7R2A225M
3,300,000	±20%	3.5max.	CKG57KX7R2A335M
4,700,000	±20%	3.5max.	CKG57KX7R2A475M

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
4,700,000	±20%	3.5max.	CKG57KX7R1H475M
10,000,000	±20%	3.5max.	CKG57KX7R1H106M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
10,000,000	±20%	3.5max.	CKG57KX7R1E106M
22,000,000	±20%	3.5max.	CKG57KX7R1E226M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
15,000,000	±20%	3.5max.	CKG57KX7R1C156M
47,000,000	±20%	3.5max.	CKG57KX7R1C476M

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CKG Series CKG57N Type

Conformity to RoHS Directive

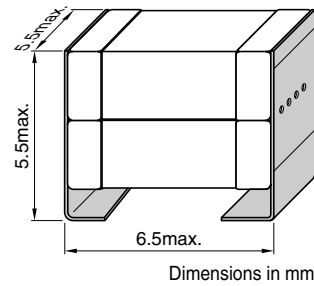
FEATURES

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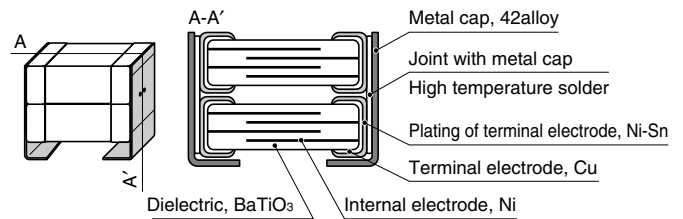
APPLICATIONS

Smoothing circuits, temperature variable applications, Maintenance free power supplies, DC to DC converters, automotive applications.

CASE SIZE



INTERNAL CONSTRUCTION



CAPACITANCE RANGES: CLASS 2

TEMPERATURE CHARACTERISTICS: X5R(±15%)

RATED VOLTAGE E_{dc}: 50V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
22,000,000	±20%	5.5max.	CKG57NX5R1H226M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
47,000,000	±20%	5.5max.	CKG57NX5R1E476M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
100,000,000	±20%	5.5max.	CKG57NX5R1C107M

TEMPERATURE CHARACTERISTICS: X7R(±15%)

RATED VOLTAGE E_{dc}: 630V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
470,000	±20%	5.5max.	CKG57NX7R2J474M

RATED VOLTAGE E_{dc}: 250V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
1,000,000	±20%	5.5max.	CKG57NX7R2E105M
2,200,000	±20%	5.5max.	CKG57NX7R2E225M

RATED VOLTAGE E_{dc}: 100V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
2,200,000	±20%	5.5max.	CKG57NX7R2A225M
4,700,000	±20%	5.5max.	CKG57NX7R2A475M
10,000,000	±20%	5.5max.	CKG57NX7R2A106M

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RATED VOLTAGE E_{dc}: 50V

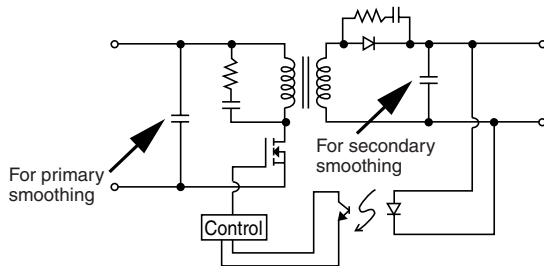
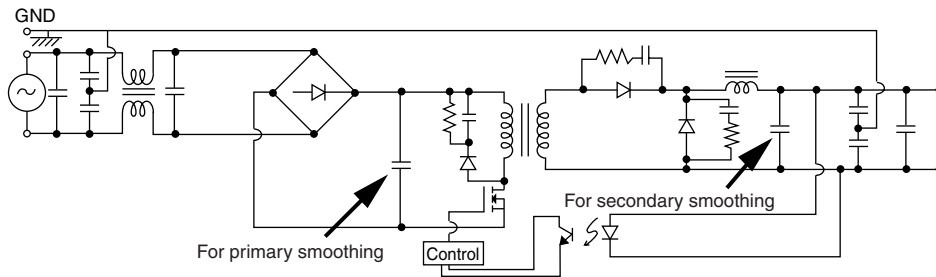
Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
10,000,000	±20%	5.5max.	CKG57NX7R1H106M

RATED VOLTAGE E_{dc}: 25V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
22,000,000	±20%	5.5max.	CKG57NX7R1E226M

RATED VOLTAGE E_{dc}: 16V

Capacitance (pF)	Tolerance	Thickness T (mm)	Part No.
33,000,000	±20%	5.5max.	CKG57NX7R1C336M

TYPICAL APPLICATION EXAMPLES
DC TO DC CONVERTER

SWITCHING POWER SUPPLY


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