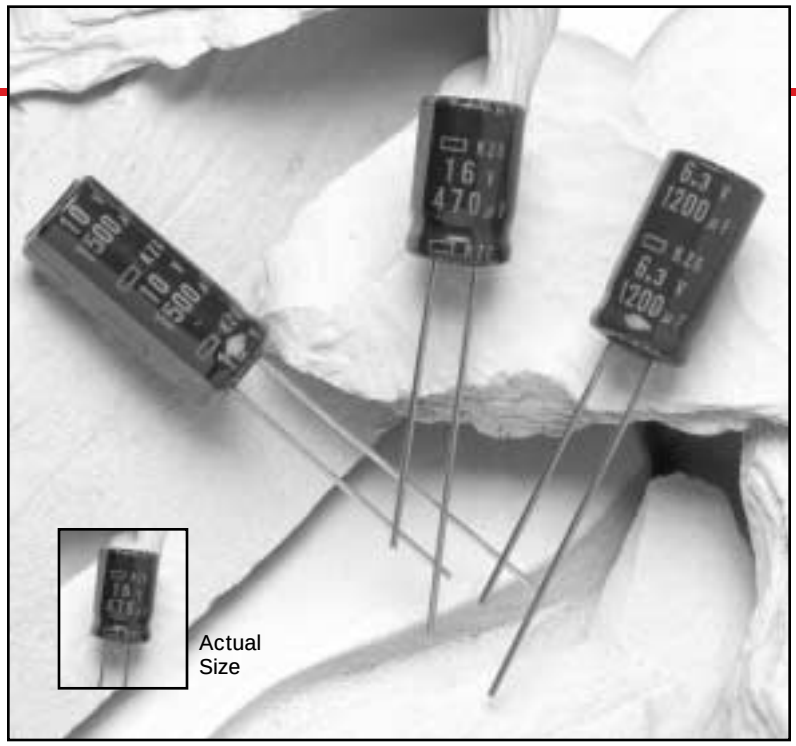
KZG Series

UNITED CHEMI-CON

- **Miniature**
- **Ultra Low Impedance**
- **Low Resistivity Electrolyte**
- **+105°C Maximum Temperature**



The KZG series is a new ultra low impedance series from United Chemi-Con. These capacitors are different from the standard low impedance capacitors, as they use a new low resistivity electrolyte. Compared to our KZE series that also uses this advanced electrolyte technology, the KZG series has lower ESR/impedance ratings, making them ideal for use in computer board circuits where very low impedance capacitors are required. This series offers large capacitance per case size and a rated lifetime of 2,000 hours at +105°C with the rated ripple current applied. If longer life is a prerequisite for low impedance applications, refer to the LXY, LXZ, or KZE series. The KZG capacitors are available with a standard PVC sleeve or optional PET (polyester) sleeve.

The KZG series capacitors are non-solvent proof. Refer to the Mini-Glossary for cleaning guidelines and recommended cleaning agents that are compatible with United Chemi-Con products.

Summary of Specifications

- **Radial lead terminals.**
- **Capacitance range: 470 to 3,300µF.**
- **Voltage range: 6.3 to 16VDC.**
- **Category temperature range: −40°C to +105°C.**
- **Leakage current: 0.01CV or 3µA, whichever is greater, after 2 minutes at +20°C.**
- **Standard capacitance tolerance: ±20%**
- **Nominal case size (D×L): 8×11.5mm to 10×25mm.**
- **Rated lifetime: 2,000 hours at +105°C with the rated ripple current applied.**

KZG Series

KZG Specifications

Item	Characteristics
Category Temperature Range	−40 to +105°C
Rated Voltage Range	6.3 to 16VDC
Capacitance Range	470 to 3,300μF
Capacitance Tolerance	±20% (M) at +20°C, 120Hz
Leakage Current	I = 0.01CV or 3μA, whichever is greater, after 2 minutes at +20°C. Where I = Max. leakage current (μA), C = Nominal capacitance (μF) and V = Rated voltage (V)
Dissipation Factor (Tan δ)	At +20°C, 120Hz Rated Voltage (V): 6.3 / 10 / 16 Tan δ (DF): 0.22 / 0.19 / 0.16 When nominal capacitance exceeds 1,000μF, add 0.02 to the values above for each 1,000μF increase.
Impedance at 100kHz	At 100kHz, maximum impedance at +20°C is specified in the Ratings Tables.
Low Temperature Characteristics	At 120Hz, impedance (Z) ratio between the −25°C or −40°C value and +20°C value shall not exceed the values given below. Rated Voltage (V): 6.3 / 10 / 16 Z(−25°C)/Z(+20°C): 2 / 2 / 2 Z(−40°C)/Z(+20°C): 3 / 3 / 3
Rated Ripple Current Multipliers *Refer to Section 4 of the Mini-Glossary for explanation of Rated Ripple Current Multipliers.*	Frequency (Hz) Capacitance (μF) / 120Hz / 1kHz / 10kHz / 100kHz 470-560μF: 0.50 / 0.85 / 0.94 / 1.00 680-1,800μF: 0.60 / 0.87 / 0.95 / 1.00 2,200-3,300μF: 0.75 / 0.90 / 0.95 / 1.00
Endurance (Load Life)	The following specifications shall be satisfied when the capacitors are restored to +20°C after subjecting them to DC voltage for 2,000 hours at +105°C with the rated ripple current applied. The sum of the DC voltage and peak AC voltage must not exceed the full rated voltage of the capacitors. Capacitance change: ≤ ±25% of initial measured value Tan δ (DF) : ≤ 200% of initial specified value Leakage current : ≤ initial specified value
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to +20°C after exposing them for 1,000 hours at +105°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes, at least 24 hours and not more than 48 hours before the measurements. Capacitance change: ≤ ±25% of initial measured value Tan δ (DF) : ≤ 200% of initial specified value Leakage current : ≤ initial specified value

Part Numbering System for KZG Series

When ordering, always specify complete catalog number for KZG Series.

KZG 6.3 VB 122 M 8X15 LL PS

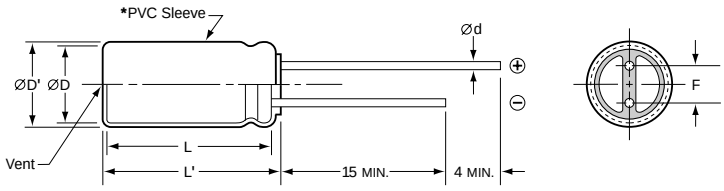
- PS — Optional Sleeve Type: PS = PET Sleeve. Specify if required.
- LL — Lead Length: LL is Standard.
- 8X15 — Case Code: See Case Sizes in Tables.
- M — Capacitance Tolerance: M = ±20%
- 122 — Capacitance Value: Expressed in Microfarads. The first two digits are significant figures, and the third digit indicates the number of zeros for capacitance of 100μF or more. R indicates the decimal point for capacitance less than 100μF (e.g. R12 = .12μF; 1R2 = 1.2μF; 12R = 12μF; 121 = 120μF; 122 = 1,200μF; 123 = 12,000μF).
- VB — Lead Configuration: VB = Radial Lead Terminals.
- 6.3 — DC Rated Voltage: Expressed in Volts (e.g. 6.3 = 6.3WVDC).
- KZG — Series Name: Indicates Basic Capacitor Design.

KZG Series

Diagram of Dimensions

VB/Radial Lead

Unit: mm



*Optional PET sleeve available upon request.

For optional lead configurations and tape and ammo packaging, refer to the beginning of the Miniature section.

øD	øD' max.	L' max.	ød	F±0.5
8	øD+0.5	L+1.5	0.6	3.5
10	øD+0.5	L+1.5	0.6	5.0

Standard Voltage Ratings - VB/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D×L (mm)	Maximum Impedance (Ω) at +20°C, 100kHz	Rated Ripple Current (mA rms) at +105°C, 100kHz
6.3 Volts 8 Volts Surge	820	KZG6.3VB821M8X11LL	8 × 11.5	0.036	1,140
	1,200	KZG6.3VB122M8X15LL	8 × 15	0.028	1,490
	1,500	KZG6.3VB152M10X12LL	10 × 12.5	0.026	1,540
	1,800	KZG6.3VB182M8X20LL	8 × 20	0.021	1,870
	1,800	KZG6.3VB182M10X16LL	10 × 16	0.019	2,000
	2,200	KZG6.3VB222M10X20LL	10 × 20	0.013	2,550
	3,300	KZG6.3VB332M10X25LL	10 × 25	0.012	2,800
10 Volts 13 Volts Surge	680	KZG10VB681M8X11LL	8 × 11.5	0.036	1,140
	1,000	KZG10VB102M8X15LL	8 × 15	0.028	1,490
	1,000	KZG10VB102M10X12LL	10 × 12.5	0.026	1,540
	1,500	KZG10VB152M8X20LL	8 × 20	0.021	1,870
	1,500	KZG10VB152M10X16LL	10 × 16	0.019	2,000
	1,800	KZG10VB182M10X20LL	10 × 20	0.013	2,550
	2,200	KZG10VB222M10X25LL	10 × 25	0.012	2,800
16 Volts 20 Volts Surge	470	KZG16VB471M8X11LL	8 × 11.5	0.036	1,140
	680	KZG16VB681M8X15LL	8 × 15	0.028	1,490
	680	KZG16VB681M10X12LL	10 × 12.5	0.026	1,540
	1,000	KZG16VB102M8X20LL	8 × 20	0.021	1,870
	1,000	KZG16VB102M10X16LL	10 × 16	0.019	2,000
	1,500	KZG16VB152M10X20LL	10 × 20	0.013	2,550
	1,800	KZG16VB182M10X25LL	10 × 25	0.012	2,800

***The case sizes in table are with no sleeve, refer to diagram for case sizes with sleeve.**