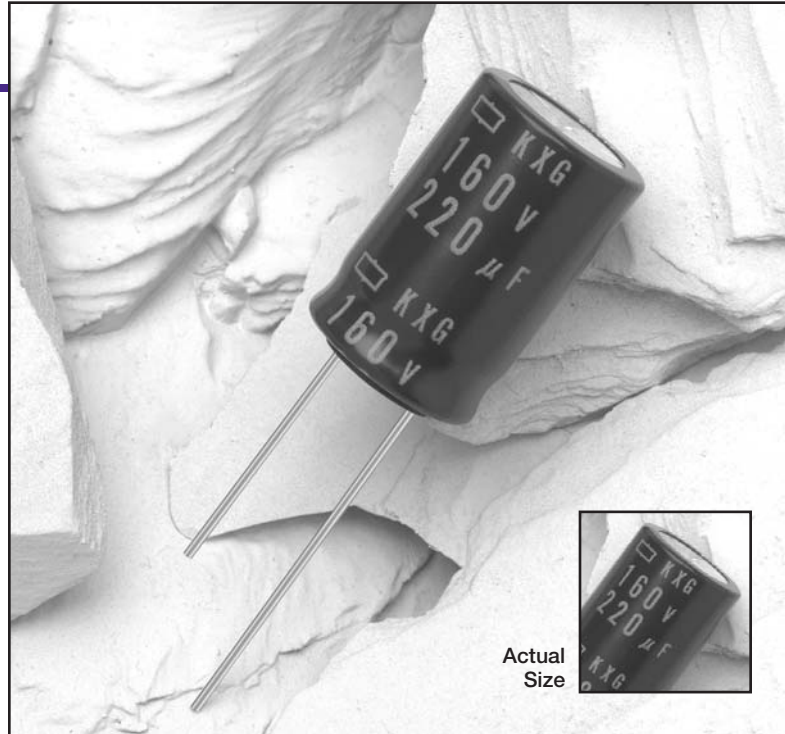


- **Miniature**
- **Downsize**
- **Long Life**
8k-10k Hours
- **For Electronic**
Ballasts
- **+105°C**
Maximum
Temperature



The KXG is a new long life series from United Chemi-Con that offers downsized versions of the KMX series, but with higher ripple current capability than the KMX capacitors. The KXG series capacitors have a rated lifetime of 8,000 to 10,000 hours at +105°C with the full rated ripple current applied and a voltage range from 160 to 450 volts. These capacitors are ideal for use in electronic ballasts or any other high voltage application where a very long lifetime is required.

The KXG 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: 6.8 to 330µF.**
- **Voltage range: 160 to 450VDC.**
- **Category temperature range: -40°C to +105°C for 160 to 400V; -25°C to +105°C for 450V.**
- **Leakage current: 0.1CV+40µA after 1 minute or 0.03CV+15µA after 5 minutes for 1,000CV or less; 0.04CV+100µA after 1 minute or 0.02CV+25µA after 5 minutes for more than 1,000CV at +20°C.**
- **Standard capacitance tolerance: ±20%**
- **Nominal case size (D×L): 10×16mm to 18×40mm.**
- **Rated lifetime: 8,000 to 10,000 hours at +105°C with the rated ripple current applied, depending on case size.**

KXG Specifications

Item	Characteristics																					
Category Temperature Range	- 40 to +105°C for 160 to 400VDC; - 25 to +105°C for 450VDC																					
Rated Voltage Range	160 to 450VDC																					
Capacitance Range	6.8 to 330 μ F																					
Capacitance Tolerance	\pm 20% (M) at +20°C, 120Hz																					
Leakage Current	At +20°C <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>CV Product</th> <th>After 1 Minute</th> <th>After 5 Minutes</th> </tr> </thead> <tbody> <tr> <td>CV \leq 1,000</td> <td>I = 0.1CV + 40μA</td> <td>I = 0.03CV + 15μA</td> </tr> <tr> <td>CV > 1,000</td> <td>I = 0.04CV + 100μA</td> <td>I = 0.02CV + 25μA</td> </tr> </tbody> </table> Where I = Max. leakage current (μ A), C = Nominal capacitance (μ F) and V = Rated voltage (V)	CV Product	After 1 Minute	After 5 Minutes	CV \leq 1,000	I = 0.1CV + 40 μ A	I = 0.03CV + 15 μ A	CV > 1,000	I = 0.04CV + 100 μ A	I = 0.02CV + 25 μ A												
CV Product	After 1 Minute	After 5 Minutes																				
CV \leq 1,000	I = 0.1CV + 40 μ A	I = 0.03CV + 15 μ A																				
CV > 1,000	I = 0.04CV + 100 μ A	I = 0.02CV + 25 μ A																				
Dissipation Factor (Tan δ)	At +20°C, 120Hz <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Rated Voltage (V)</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Tan δ (DF)</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> <td>0.24</td> <td>0.24</td> <td>0.24</td> </tr> </tbody> </table>	Rated Voltage (V)	160	200	250	350	400	450	Tan δ (DF)	0.20	0.20	0.20	0.24	0.24	0.24							
Rated Voltage (V)	160	200	250	350	400	450																
Tan δ (DF)	0.20	0.20	0.20	0.24	0.24	0.24																
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. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Rated Voltage (V)</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z (-25°C) / Z (+20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z (-40°C) / Z (+20°C)</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>-</td> </tr> </tbody> </table>	Rated Voltage (V)	160	200	250	350	400	450	Z (-25°C) / Z (+20°C)	3	3	3	5	5	6	Z (-40°C) / Z (+20°C)	6	6	6	6	6	-
Rated Voltage (V)	160	200	250	350	400	450																
Z (-25°C) / Z (+20°C)	3	3	3	5	5	6																
Z (-40°C) / Z (+20°C)	6	6	6	6	6	-																
Rated Ripple Current Multipliers <i>Refer to Section 4 of the Mini-Glossary for explanation of Rated Ripple Current Multipliers.</i>	Frequency (Hz) <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Capacitance (μF)</th> <th>120Hz</th> <th>1kHz</th> <th>10kHz</th> <th>100kHz</th> </tr> </thead> <tbody> <tr> <td>6.8 - 82μF</td> <td>1.00</td> <td>1.75</td> <td>2.25</td> <td>2.50</td> </tr> <tr> <td>100 - 330μF</td> <td>1.00</td> <td>1.67</td> <td>1.75</td> <td>2.25</td> </tr> </tbody> </table>	Capacitance (μ F)	120Hz	1kHz	10kHz	100kHz	6.8 - 82 μ F	1.00	1.75	2.25	2.50	100 - 330 μ F	1.00	1.67	1.75	2.25						
Capacitance (μ F)	120Hz	1kHz	10kHz	100kHz																		
6.8 - 82 μ F	1.00	1.75	2.25	2.50																		
100 - 330 μ F	1.00	1.67	1.75	2.25																		
Endurance (Load Life)	The following specifications shall be satisfied when the capacitors are restored to +20°C after subjecting them to DC voltage for the specified test time 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. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Case Diameter</th> <th>\varnothing10mm</th> <th>\varnothing12.5mm & Above</th> </tr> </thead> <tbody> <tr> <td>Test Time</td> <td>8,000 Hours</td> <td>10,000 Hours</td> </tr> </tbody> </table> Capacitance change: $\leq \pm$ 20% of initial measured value Tan δ (DF) : \leq 200% of initial specified value Leakage current : \leq initial specified value	Case Diameter	\varnothing 10mm	\varnothing 12.5mm & Above	Test Time	8,000 Hours	10,000 Hours															
Case Diameter	\varnothing 10mm	\varnothing 12.5mm & Above																				
Test Time	8,000 Hours	10,000 Hours																				
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: $\leq \pm$ 20% of initial measured value Tan δ (DF) : \leq 200% of initial specified value Leakage current : \leq 500% of initial specified value																					

Diagram of Dimensions

VB/Radial Lead
Unit: mm

Gas escape end seal for all case diameters.

Refer to Packaging section for Miniature taping and ammo box specifications and Lead Configurations section for Miniature radial lead cut and lead forming options.

ØD	ØD' max.	L' max.	Ød	F ±0.5
10	ØD + 0.5	L + 1.5	0.6	5.0
12.5	ØD + 0.5	L + 1.5	0.6	5.0
16	ØD + 0.5	L + 1.5	0.8	7.5
18	ØD + 0.5	L + 1.5	0.8	7.5

Part Numbering System for KXG Series

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

KXG	160	VB	221	M	16X25	LL	
							Lead Length: LL is Standard.
							Case Code: See Case Sizes in Tables.
							Capacitance Tolerance: M = ±20%
							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. R22 = .22µF; 2R2 = 2.2µF; 22R = 22µF; 221 = 220µF; 222 = 2,200µF; 223 = 22,000µF).
							Lead Configuration: VB = Radial Lead Terminals.
							DC Rated Voltage: Expressed in Volts (e.g. 160 = 160WVDC).
							Series Name: Indicates Basic Capacitor Design.

Standard Voltage Ratings - VB/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Rated Ripple Current (mA rms) at +105°C	
				120Hz	100kHz
160 Volts 200 Volts Surge	10	KXG160VB10RM10X16LL	10 × 16	125	315
	22	KXG160VB22RM10X20LL	10 × 20	200	500
	33	KXG160VB33RM10X20LL	10 × 20	250	625
	47	KXG160VB47RM10X20LL	10 × 20	300	750
	68	KXG160VB68RM12X20LL	12.5 × 20	470	1,175
	82	KXG160VB82RM12X20LL	12.5 × 20	510	1,275
	100	KXG160VB101M12X25LL	12.5 × 25	620	1,395
	100	KXG160VB101M16X20LL	16 × 20	630	1,420
	150	KXG160VB151M16X20LL	16 × 20	770	1,735
	220	KXG160VB221M16X25LL	16 × 25	1,020	2,295
330	KXG160VB331M18X31LL	18 × 31.5	1,390	3,130	

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

Standard Voltage Ratings - VB/Radial Lead

Rated Voltage (WVDC)	Capacitance (µF)	Catalog Part Number	Nominal Case Size* D × L (mm)	Rated Ripple Current (mA rms) at +105°C	
				120Hz	100kHz
200 Volts 250 Volts Surge	10	KXG200VB10RM10X16LL	10 × 16	125	315
	22	KXG200VB22RM10X20LL	10 × 20	200	500
	33	KXG200VB33RM10X20LL	10 × 20	260	650
	47	KXG200VB47RM12X20LL	12.5 × 20	390	975
	68	KXG200VB68RM12X20LL	12.5 × 20	470	1,175
	82	KXG200VB82RM16X20LL	16 × 20	550	1,375
	100	KXG200VB101M16X20LL	16 × 20	630	1,420
	150	KXG200VB151M16X25LL	16 × 25	840	1,890
	220	KXG200VB221M18X25LL	18 × 25	1,050	2,365
330	KXG200VB331M18X35LL	18 × 35.5	1,430	3,220	
250 Volts 300 Volts Surge	10	KXG250VB10RM10X20LL	10 × 20	140	350
	22	KXG250VB22RM10X20LL	10 × 20	200	500
	33	KXG250VB33RM12X20LL	12.5 × 20	320	800
	47	KXG250VB47RM12X20LL	12.5 × 20	390	975
	68	KXG250VB68RM16X20LL	16 × 20	520	1,300
	82	KXG250VB82RM16X20LL	16 × 20	550	1,375
	100	KXG250VB101M16X25LL	16 × 25	680	1,530
	150	KXG250VB151M18X25LL	18 × 25	860	1,935
	220	KXG250VB221M18X31LL	18 × 31.5	1,130	2,545
350 Volts 400 Volts Surge	6.8	KXG350VB6R8M10X16LL	10 × 16	110	275
	10	KXG350VB10RM10X20LL	10 × 20	140	350
	22	KXG350VB22RM12X20LL	12.5 × 20	260	650
	33	KXG350VB33RM16X20LL	16 × 20	360	900
	47	KXG350VB47RM16X20LL	16 × 20	430	1,075
	68	KXG350VB68RM16X25LL	16 × 25	560	1,400
	68	KXG350VB68RM18X20LL	18 × 20	550	1,375
	82	KXG350VB82RM18X25LL	18 × 25	610	1,525
	100	KXG350VB101M18X25LL	18 × 25	700	1,575
	120	KXG350VB121M18X31LL	18 × 31.5	830	1,865
150	KXG350VB151M18X35LL	18 × 35.5	960	2,160	
400 Volts 450 Volts Surge	6.8	KXG400VB6R8M10X16LL	10 × 16	110	275
	10	KXG400VB10RM10X20LL	10 × 20	140	350
	15	KXG400VB15RM12X20LL	12.5 × 20	220	550
	22	KXG400VB22RM12X20LL	12.5 × 20	260	650
	33	KXG400VB33RM16X20LL	16 × 20	360	900
	47	KXG400VB47RM16X25LL	16 × 25	470	1,175
	47	KXG400VB47RM18X20LL	18 × 20	450	1,125
	68	KXG400VB68RM18X25LL	18 × 25	585	1,465
	82	KXG400VB82RM18X25LL	18 × 25	610	1,525
	100	KXG400VB101M18X31LL	18 × 31.5	765	1,720
	120	KXG400VB121M18X35LL	18 × 35.5	865	1,945
150	KXG400VB151M18X40LL	18 × 40	985	2,215	
450 Volts 500 Volts Surge	6.8	KXG450VB6R8M10X20LL	10 × 20	110	275
	10	KXG450VB10RM12X20LL	12.5 × 20	180	450
	15	KXG450VB15RM12X25LL	12.5 × 25	240	600
	22	KXG450VB22RM16X20LL	16 × 20	290	725
	33	KXG450VB33RM16X25LL	16 × 25	390	975
	33	KXG450VB33RM18X20LL	18 × 20	380	950
	47	KXG450VB47RM18X25LL	18 × 25	480	1,200
	68	KXG450VB68RM18X31LL	18 × 31.5	630	1,575
	82	KXG450VB82RM18X35LL	18 × 35.5	715	1,785
	100	KXG450VB101M18X40LL	18 × 40	800	1,800

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