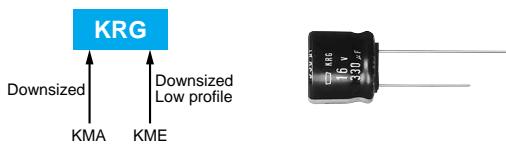


KRG Series

- Low profile : $\phi 4 \times 7\text{mm}$ to $\phi 18 \times 25\text{mm}$
- Endurance : 1,000 hours at 105°C
- Solvent-proof type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

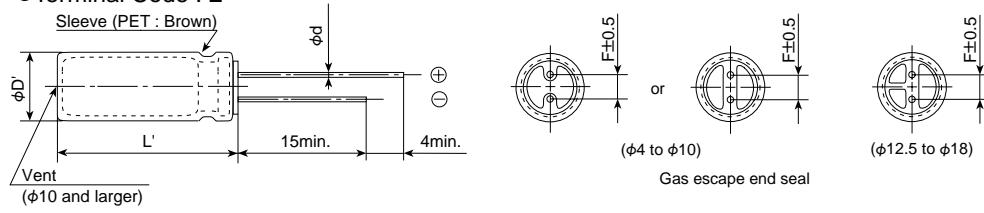


◆SPECIFICATIONS

Items	Characteristics																													
Category Temperature Range	-55 to +105°C																													
Rated Voltage Range	6.3 to 50Vdc																													
Capacitance Tolerance	$\pm 20\%$ (M)																													
Leakage Current	$I = 0.01CV$ or $3\mu\text{A}$, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)																													
Dissipation Factor ($\tan\delta$)	<table border="1"> <tr> <td>Rated voltage (Vdc)</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>$\tan\delta$ (Max.)</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table> <p>When nominal capacitance exceeds $1,000\mu\text{F}$, add 0.03 to the value above for each $1,000\mu\text{F}$ increase.</p>						Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	$\tan\delta$ (Max.)	0.28	0.24	0.20	0.16	0.14	0.12										
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Low Temperature Characteristics (Max. Impedance Ratio)	<table border="1"> <tr> <td>Rated voltage (Vdc)</td> <td>6.3V</td> <td>10V</td> <td>16V</td> <td>25V</td> <td>35V</td> <td>50V</td> </tr> <tr> <td>$Z(-25^\circ\text{C})/Z(+20^\circ\text{C})$</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>$Z(-40^\circ\text{C})/Z(+20^\circ\text{C})$</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> </tr> </table> <p>(at 20°C after 2 minutes)</p> <p>(at 20°C, 120Hz)</p>						Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	$Z(-25^\circ\text{C})/Z(+20^\circ\text{C})$	5	4	3	2	2	2	$Z(-40^\circ\text{C})/Z(+20^\circ\text{C})$	10	8	6	4	3	3			
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Endurance	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 105°C.</p> <table border="1"> <tr> <td>Rated voltage</td> <td colspan="2">6.3 to 16Vdc</td> <td colspan="3">25 to 50Vdc</td> </tr> <tr> <td>Capacitance change</td> <td colspan="2">$\leq \pm 25\%$ of the initial value</td> <td colspan="3">$\leq \pm 20\%$ of the initial value</td> </tr> <tr> <td>D.F. ($\tan\delta$)</td> <td colspan="2">$\leq 200\%$ of the initial specified value</td> <td colspan="3">$\leq 200\%$ of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="2">\leq The initial specified value</td> <td colspan="3" rowspan="2">\leq The initial specified value</td> </tr> </table>						Rated voltage	6.3 to 16Vdc		25 to 50Vdc			Capacitance change	$\leq \pm 25\%$ of the initial value		$\leq \pm 20\%$ of the initial value			D.F. ($\tan\delta$)	$\leq 200\%$ of the initial specified value		$\leq 200\%$ of the initial specified value			Leakage current	\leq The initial specified value		\leq The initial specified value		
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Leakage current	\leq The initial specified value		\leq The initial specified value																											
Shelf Life	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 105°C without voltage applied.</p> <table border="1"> <tr> <td>Rated voltage</td> <td colspan="2">6.3 to 16Vdc</td> <td colspan="3">25 to 50Vdc</td> </tr> <tr> <td>Capacitance change</td> <td colspan="2">$\leq \pm 25\%$ of the initial value</td> <td colspan="3">$\leq \pm 20\%$ of the initial value</td> </tr> <tr> <td>D.F. ($\tan\delta$)</td> <td colspan="2">$\leq 200\%$ of the initial specified value</td> <td colspan="3">$\leq 200\%$ of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="2">\leq The initial specified value</td> <td colspan="3">\leq The initial specified value</td> </tr> </table>						Rated voltage	6.3 to 16Vdc		25 to 50Vdc			Capacitance change	$\leq \pm 25\%$ of the initial value		$\leq \pm 20\%$ of the initial value			D.F. ($\tan\delta$)	$\leq 200\%$ of the initial specified value		$\leq 200\%$ of the initial specified value			Leakage current	\leq The initial specified value		\leq The initial specified value		
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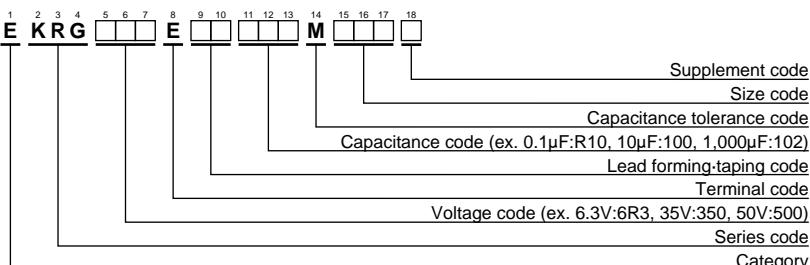
◆DIMENSIONS [mm]

- Terminal Code : E



ϕD	4	5	6.3	8	10 & 12.5	16 & 18
ϕd	7L	0.45	0.45	—	—	—
$\geq 9L$	—	0.5	0.5	0.6	0.6	0.8
F	1.5	2.0	2.5	3.5	5.0	7.5
$\phi D'$	$\phi D + 0.5\text{max.}$					
L'	$L + 1.5\text{max.}$ (7L : L+1.0max.)					

◆PART NUMBERING SYSTEM



Please refer to "A guide to global code (radial lead type)"

KRG Series
◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (mArms/105°C,120Hz)	Part No.
6.3	47	5X7	0.28	50	EKRG6R3E□□470ME07D
	330	6.3X9	0.28	175	EKRG6R3E□□331MF09D
	1,000	10X9	0.28	365	EKRG6R3E□□102MJ09S
	4,700	16X15	0.37	1,010	EKRG6R3E□□472ML15S
	6,800	18X15	0.43	1,190	EKRG6R3E□□682MM15S
	10,000	18X20	0.55	1,440	EKRG6R3E□□103MM20S
10	22	4X7	0.24	35	EKRG100E□□220MD07D
	100	5X9	0.24	93	EKRG100E□□101ME09D
	100	6.3X7	0.24	80	EKRG100E□□101MF07D
	220	6.3X9	0.24	154	EKRG100E□□221MF09D
	470	8X9	0.24	272	EKRG100E□□471MH09D
	1,000	10X12.5	0.24	445	EKRG100E□□102MJC5S
	2,200	12.5X15	0.27	690	EKRG100E□□222MK15S
	3,300	16X15	0.30	940	EKRG100E□□332ML15S
	4,700	18X15	0.33	1,120	EKRG100E□□472MM15S
	6,800	18X20	0.39	1,330	EKRG100E□□682MM20S
	10,000	18X25	0.51	1,700	EKRG100E□□103MM25S
16	33	5X7	0.20	53	EKRG160E□□330ME07D
	47	6.3X7	0.20	68	EKRG160E□□470MF07D
	100	6.3X7	0.20	97	EKRG160E□□101MF07D
	220	8X9	0.20	205	EKRG160E□□221MH09D
	330	8X9	0.20	251	EKRG160E□□331MH09D
	470	10X9	0.20	290	EKRG160E□□471MJ09S
	1,000	12.5X13	0.20	515	EKRG160E□□102MK13S
	2,200	16X15	0.23	830	EKRG160E□□222ML15S
	3,300	18X15	0.26	1,050	EKRG160E□□332MM15S
	4,700	18X20	0.29	1,260	EKRG160E□□472MM20S
	6,800	18X25	0.35	1,560	EKRG160E□□682MM25S
	10	4X7	0.16	30	EKRG250E□□100MD07D
	22	5X7	0.16	46	EKRG250E□□220ME07D
	33	6.3X7	0.16	63	EKRG250E□□330MF07D
25	47	5X9	0.16	75	EKRG250E□□470ME09D
	47	6.3X7	0.16	71	EKRG250E□□470MF07D
	100	6.3X9	0.16	121	EKRG250E□□101MF09D
	330	10X9	0.16	270	EKRG250E□□331MJ09S
	470	10X12.5	0.16	370	EKRG250E□□471MJC5S
	1,000	12.5X15	0.16	590	EKRG250E□□102MK15S

□□ : Lead forming / Taping code

◆RATED RIPPLE CURRENT MULTIPLIERS
●Frequency Multipliers

Capacitance (μF)	Frequency (Hz)	50	120	300	1k	10k	100k
0.1 to 4.7		0.65	1.00	1.35	1.75	2.30	2.50
10 to 47		0.75	1.00	1.25	1.50	1.75	1.80
100 to 1,000		0.80	1.00	1.15	1.30	1.40	1.50
2,200 to		0.85	1.00	1.03	1.05	1.08	1.08

WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (mArms/105°C,120Hz)	Part No.
25	2,200	18X15	0.19	970	EKRG250E□□222MM15S
	3,300	18X20	0.22	1,220	EKRG250E□□332MM20S
	4,700	18X25	0.25	1,470	EKRG250E□□472MM25S
35	10	5X7	0.14	36	EKRG350E□□100ME07D
	22	6.3X7	0.14	57	EKRG350E□□220MF07D
	33	5X9	0.14	67	EKRG350E□□330ME09D
	33	6.3X7	0.14	64	EKRG350E□□330MF07D
	100	8X9	0.14	155	EKRG350E□□101MH09D
	220	10X9	0.14	235	EKRG350E□□221MJ09S
	330	10X12.5	0.14	340	EKRG350E□□331MJC5S
	470	12.5X13	0.14	415	EKRG350E□□471MK13S
	1,000	16X15	0.14	720	EKRG350E□□102ML15S
	2,200	18X20	0.17	1,110	EKRG350E□□222MM20S
	0.10	4X7	0.12	1.3	EKRG500E□□R10MD07D
50	0.22	4X7	0.12	2.9	EKRG500E□□R22MD07D
	0.33	4X7	0.12	3.5	EKRG500E□□R33MD07D
	0.47	4X7	0.12	5.0	EKRG500E□□R47MD07D
	1.0	4X7	0.12	10	EKRG500E□□R10MD07D
	1.0	5X9	0.12	12	EKRG500E□□R10ME09D
	2.2	4X7	0.12	15	EKRG500E□□R2R2MD07D
	2.2	5X9	0.12	18	EKRG500E□□R2R2ME09D
	3.3	4X7	0.12	18	EKRG500E□□R3R3MD07D
	3.3	5X9	0.12	22	EKRG500E□□R3R3ME09D
	4.7	4X7	0.12	25	EKRG500E□□R4R7MD07D
	4.7	5X9	0.12	27	EKRG500E□□R4R7ME09D
	10	5X9	0.12	46	EKRG500E□□R100ME09D
	10	6.3X7	0.12	44	EKRG500E□□R100MF07D
	22	5X9	0.12	61	EKRG500E□□R220ME09D
	22	6.3X7	0.12	57	EKRG500E□□R220MF07D
	33	6.3X9	0.12	80	EKRG500E□□R330MF09D
	47	6.3X9	0.12	95	EKRG500E□□R470MF09D
	100	10X9	0.12	170	EKRG500E□□R101MJ09S
	220	10X12.5	0.12	290	EKRG500E□□R221MJC5S
	330	12.5X13	0.12	370	EKRG500E□□R331MK13S
	470	16X15	0.12	535	EKRG500E□□R471ML15S
	1,000	18X20	0.12	830	EKRG500E□□R102MM20S