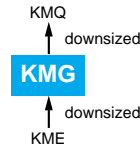


# KMG Series

- Downsized from KME series
- Solvent-proof type except 350 to 450V<sub>dc</sub>  
(see PRECAUTIONS AND GUIDELINES)
- Pb-free design

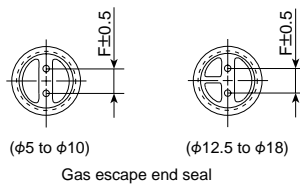
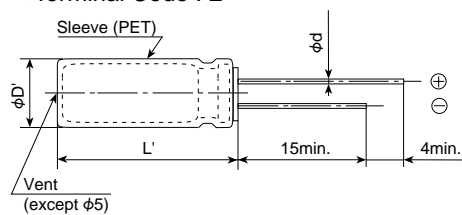


## ◆ SPECIFICATIONS

Items	Characteristics																						
Category	-55 to +105°C(6.3 to 100V <sub>dc</sub> ) -40 to +105°C(160 to 400V <sub>dc</sub> ) -25 to +105°C(450V <sub>dc</sub> )																						
Temperature Range																							
Rated Voltage Range	6.3 to 450V <sub>dc</sub>																						
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)																						
Leakage Current	6.3 to 100V <sub>dc</sub>																						
	I=0.03CV or 4µA, whichever is greater.																						
	160 to 450V <sub>dc</sub>																						
	<table border="1"> <thead> <tr> <th>CV</th> <th>Time</th> <th>After 1minute</th> <th>After 5minutes</th> </tr> </thead> <tbody> <tr> <td>CV≤1000</td> <td></td> <td>I=0.1CV+40 max.</td> <td>I=0.03CV+15 max.</td> </tr> <tr> <td>CV&gt;1000</td> <td></td> <td>I=0.04CV+100 max.</td> <td>I=0.02CV+25 max.</td> </tr> </tbody> </table>												CV	Time	After 1minute	After 5minutes	CV≤1000		I=0.1CV+40 max.	I=0.03CV+15 max.	CV>1000		I=0.04CV+100 max.
CV	Time	After 1minute	After 5minutes																				
CV≤1000		I=0.1CV+40 max.	I=0.03CV+15 max.																				
CV>1000		I=0.04CV+100 max.	I=0.02CV+25 max.																				
(at 20°C after 1 minute) (at 20°C)																							
Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V)																							
Dissipation Factor (tanδ)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V	450V											
	tanδ (Max.)	0.34	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.24	0.24											
	When nominal capacitance exceeds 1000µF, add 0.02 to the value above for each 1000µF increase. (at 20°C, 120Hz)																						
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V	450V											
	Z(-25°C)/Z(+20°C)	5	4	3	2	2	2	2	2	3	6	6											
	Z(-40°C)/Z(+20°C)	12	10	8	5	4	3	3	3	4	6	—											
(at 120Hz)																							
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 1000 hours (2000 hours to meet the following two conditions 1) : 160V <sub>dc</sub> and larger, 2) : φ12.5 and larger) at 105°C.																						
	Capacitance change	≤±20% of the initial value																					
	D.F. (tanδ)	≤200% of the initial specified value																					
	Leakage current	≤The initial specified value																					
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hours at 105°C without voltage applied.																						
	Rated voltage	6.3 to 100V <sub>dc</sub>						160 to 450V <sub>dc</sub>															
	Capacitance change	≤±20% of the initial value						≤±20% of the initial value															
	D.F. (tanδ)	≤200% of the initial specified value						≤200% of the initial specified value															
	Leakage current	≤The initial specified value						≤500% of the initial specified value															

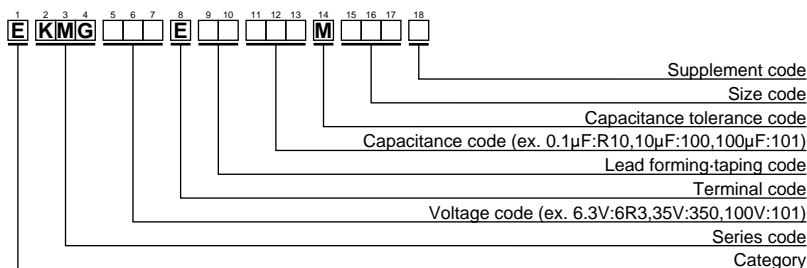
## ◆ DIMENSIONS [mm]

- Terminal Code : E



φD	5	6.3	8	10	12.5	16	18
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φD'	φD+0.5max.						
L'	L+1.5max						

## ◆ PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA rms/105°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA rms/105°C,120Hz)	Part No.	
6.3	33	5×11	0.34	54	EKMG6R3E□□330ME11D	35	3300	16×35.5	0.18	1610	EKMG350E□□332MLP1S	
	47	5×11	0.34	64	EKMG6R3E□□470ME11D		4700	18×35.5	0.20	1910	EKMG350E□□472MMP1S	
	100	5×11	0.34	94	EKMG6R3E□□101ME11D		50	0.10	5×11	0.12	1.3	EKMG500E□□R10ME11D
	220	5×11	0.34	140	EKMG6R3E□□221ME11D			0.22	5×11	0.12	2.9	EKMG500E□□R22ME11D
	330	6.3×11	0.34	190	EKMG6R3E□□331MF11D			0.33	5×11	0.12	4.3	EKMG500E□□R33ME11D
	470	6.3×11	0.34	230	EKMG6R3E□□471MF11D			0.47	5×11	0.12	6.2	EKMG500E□□R47ME11D
	1000	8×11.5	0.34	380	EKMG6R3E□□102MHB5D			1.0	5×11	0.12	13	EKMG500E□□1R0ME11D
	2200	10×20	0.36	710	EKMG6R3E□□222MJ20S			2.2	5×11	0.12	20	EKMG500E□□2R2ME11D
	3300	10×20	0.38	840	EKMG6R3E□□332MJ20S			3.3	5×11	0.12	25	EKMG500E□□3R3ME11D
	4700	12.5×20	0.40	1090	EKMG6R3E□□472MK20S			4.7	5×11	0.12	30	EKMG500E□□4R7ME11D
	6800	12.5×25	0.44	1350	EKMG6R3E□□682MK25S			10	5×11	0.12	40	EKMG500E□□100ME11D
	10000	16×25	0.52	1650	EKMG6R3E□□103ML25S			22	5×11	0.12	65	EKMG500E□□220ME11D
	15000	16×35.5	0.62	2010	EKMG6R3E□□153MLP1S			33	5×11	0.12	90	EKMG500E□□331MJ16S
22000	18×40	0.76	2350	EKMG6R3E□□223MM40S	47	6.3×11		0.12	110	EKMG500E□□470MF11D		
10	22	5×11	0.24	46	EKMG100E□□220ME11D	100	8×11.5	0.12	180	EKMG500E□□101MHB5D		
	33	5×11	0.24	57	EKMG100E□□330ME11D	220	10×12.5	0.12	300	EKMG500E□□221MJC5S		
	47	5×11	0.24	68	EKMG100E□□470ME11D	330	10×16	0.12	410	EKMG500E□□331MJ16S		
	100	5×11	0.24	100	EKMG100E□□101ME11D	470	10×20	0.12	530	EKMG500E□□471MJ20S		
	220	6.3×11	0.24	170	EKMG100E□□221MF11D	1000	12.5×25	0.12	950	EKMG500E□□102MK25S		
	330	6.3×11	0.24	200	EKMG100E□□331MF11D	2200	16×35.5	0.14	1470	EKMG500E□□222MLP1S		
	470	8×11.5	0.24	250	EKMG100E□□471MHB5D	3300	18×35.5	0.16	1770	EKMG500E□□332MMP1S		
	1000	10×12.5	0.24	460	EKMG100E□□102MJC5S	63	10	5×11	0.10	46	EKMG630E□□100ME11D	
	2200	10×20	0.26	760	EKMG100E□□222MJ20S		22	5×11	0.10	71	EKMG630E□□220ME11D	
	3300	12.5×20	0.28	1000	EKMG100E□□332MK20S		33	6.3×11	0.10	100	EKMG630E□□330MF11D	
	4700	12.5×25	0.30	1260	EKMG100E□□472MK25S		47	6.3×11	0.10	120	EKMG630E□□470MF11D	
	6800	16×25	0.34	1570	EKMG100E□□682ML25S		100	10×12.5	0.10	215	EKMG630E□□101MJC5S	
	10000	16×35.5	0.42	1890	EKMG100E□□103MLP1S		220	10×16	0.10	335	EKMG630E□□221MJ16S	
15000	18×35.5	0.52	2180	EKMG100E□□153MMP1S	330		10×20	0.10	510	EKMG630E□□331MJ20S		
16	10	5×11	0.20	34	EKMG160E□□100ME11D		470	12.5×20	0.10	640	EKMG630E□□471MK20S	
	22	5×11	0.20	51	EKMG160E□□220ME11D		1000	16×25	0.10	930	EKMG630E□□102ML25S	
	33	5×11	0.20	63	EKMG160E□□330ME11D		100	0.10	5×11	0.08	1.5	EKMG101E□□R10ME11D
	47	5×11	0.20	75	EKMG160E□□470ME11D			0.22	5×11	0.08	3.4	EKMG101E□□R22ME11D
	100	5×11	0.20	110	EKMG160E□□101ME11D			0.33	5×11	0.08	5.0	EKMG101E□□R33ME11D
	220	6.3×11	0.20	180	EKMG160E□□221MF11D	0.47		5×11	0.08	7.1	EKMG101E□□R47ME11D	
	330	8×11.5	0.20	260	EKMG160E□□331MHB5D	1.0		5×11	0.08	15	EKMG101E□□1R0ME11D	
	470	8×11.5	0.20	310	EKMG160E□□471MHB5D	2.2		5×11	0.08	21	EKMG101E□□2R2ME11D	
	1000	10×16	0.20	560	EKMG160E□□102MJ16S	3.3		5×11	0.08	29	EKMG101E□□3R3ME11D	
	2200	12.5×20	0.22	920	EKMG160E□□222MK20S	4.7		5×11	0.08	32	EKMG101E□□4R7ME11D	
	3300	12.5×25	0.24	1170	EKMG160E□□332MK25S	10		6.3×11	0.08	54	EKMG101E□□100MF11D	
	4700	16×25	0.26	1480	EKMG160E□□472ML25S	22		8×11.5	0.08	93	EKMG101E□□220MHB5D	
	6800	16×31.5	0.30	1780	EKMG160E□□682MLN3S	33		8×11.5	0.08	130	EKMG101E□□330MHB5D	
10000	18×35.5	0.38	2060	EKMG160E□□103MMP1S	47	10×12.5		0.08	165	EKMG101E□□470MJC5S		
25	4.7	5×11	0.16	25	EKMG250E□□4R7ME11D	100	10×20	0.08	265	EKMG101E□□101MJ20S		
	10	5×11	0.16	36	EKMG250E□□100ME11D	220	12.5×25	0.08	440	EKMG101E□□221MK25S		
	22	5×11	0.16	54	EKMG250E□□220ME11D	330	16×25	0.08	540	EKMG101E□□331ML25S		
	33	5×11	0.16	67	EKMG250E□□330ME11D	470	16×31.5	0.08	715	EKMG101E□□471MLN3S		
	47	5×11	0.16	80	EKMG250E□□470ME11D	1000	18×40	0.08	985	EKMG101E□□102MM40S		
	100	6.3×11	0.16	130	EKMG250E□□101MF11D	160	3.3	6.3×11	0.20	28	EKMG161E□□3R3MF11D	
	220	8×11.5	0.16	230	EKMG250E□□221MHB5D		4.7	6.3×11	0.20	34	EKMG161E□□4R7MF11D	
	330	8×11.5	0.16	310	EKMG250E□□331MHB5D		10	10×12.5	0.20	67	EKMG161E□□100MJC5S	
	470	10×12.5	0.16	380	EKMG250E□□471MJC5S		22	10×20	0.20	120	EKMG161E□□220MJ20S	
	1000	10×20	0.16	680	EKMG250E□□102MJ20S		33	10×20	0.20	145	EKMG161E□□330MJ20S	
	2200	12.5×25	0.18	1090	EKMG250E□□222MK25S		47	12.5×20	0.20	195	EKMG161E□□470MK20S	
	3300	16×25	0.20	1400	EKMG250E□□332ML25S		100	16×25	0.20	335	EKMG161E□□101ML25S	
	4700	16×31.5	0.22	1710	EKMG250E□□472MLN3S		220	16×31.5	0.20	540	EKMG161E□□221MLN3S	
6800	18×35.5	0.26	2040	EKMG250E□□682MMP1S	330		18×35.5	0.20	705	EKMG161E□□331MMP1S		
35	4.7	5×11	0.14	28	EKMG350E□□4R7ME11D		200	3.3	6.3×11	0.20	28	EKMG201E□□3R3MF11D
	10	5×11	0.14	41	EKMG350E□□100ME11D			4.7	8×11.5	0.20	39	EKMG201E□□4R7MHB5D
	22	5×11	0.14	61	EKMG350E□□220ME11D			10	10×16	0.20	74	EKMG201E□□100MJ16S
	33	5×11	0.14	75	EKMG350E□□330ME11D	22		10×20	0.20	120	EKMG201E□□220MJ20S	
	47	5×11	0.14	90	EKMG350E□□470ME11D	33		12.5×20	0.20	160	EKMG201E□□330MK20S	
	100	6.3×11	0.14	150	EKMG350E□□101MF11D	47		12.5×20	0.20	195	EKMG201E□□470MK20S	
	220	8×11.5	0.14	270	EKMG350E□□221MHB5D	100		16×25	0.20	335	EKMG201E□□101ML25S	
	330	10×12.5	0.14	350	EKMG350E□□331MJC5S	220		18×35.5	0.20	575	EKMG201E□□221MMP1S	
	470	10×16	0.14	460	EKMG350E□□471MJ16S	250		2.2	6.3×11	0.20	23	EKMG251E□□2R2MF11D
	1000	12.5×20	0.14	810	EKMG350E□□102MK20S			3.3	8×11.5	0.20	32	EKMG251E□□3R3MHB5D
	2200	16×25	0.16	1260	EKMG350E□□222ML25S			4.7	8×11.5	0.20	39	EKMG251E□□4R7MHB5D

□ □ : Lead forming / Taping code

### ◆STANDARD RATINGS

□ is non solvent-proof.

WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.
250	10	10×16	0.20	74	EKMG251E□□100MJ16S
	22	12.5×20	0.20	130	EKMG251E□□220MK20S
	33	12.5×20	0.20	160	EKMG251E□□330MK20S
	47	12.5×25	0.20	210	EKMG251E□□470MK25S
	100	16×31.5	0.20	365	EKMG251E□□101MLN3S
	220	18×40	0.20	585	EKMG251E□□221MM40S
350	0.47	6.3×11	0.24	11	EKMG351E□□R47MF11D
	1.0	6.3×11	0.24	15	EKMG351E□□1R0MF11D
	2.2	8×11.5	0.24	26	EKMG351E□□2R2MHB5D
	3.3	10×12.5	0.24	38	EKMG351E□□3R3MJC5S
	4.7	10×16	0.24	50	EKMG351E□□4R7MJ16S
	10	10×20	0.24	80	EKMG351E□□100MJ20S
	22	12.5×20	0.24	130	EKMG351E□□220MK20S
	33	16×25	0.24	195	EKMG351E□□330ML25S
	47	16×25	0.24	230	EKMG351E□□470ML25S
100	18×31.5	0.24	375	EKMG351E□□101MMN3S	

□□ : Lead forming / Taping code

WV (Vdc)	Cap (μF)	Case size φDXL(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.
400	1.0	6.3×11	0.24	15	EKMG401E□□1R0MF11D
	2.2	8×11.5	0.24	26	EKMG401E□□2R2MHB5D
	3.3	10×12.5	0.24	38	EKMG401E□□3R3MJC5S
	4.7	10×16	0.24	50	EKMG401E□□4R7MJ16S
	10	10×20	0.24	80	EKMG401E□□100MJ20S
	22	12.5×25	0.24	145	EKMG401E□□220MK25S
	33	16×25	0.24	195	EKMG401E□□330ML25S
	47	16×31.5	0.24	250	EKMG401E□□470MLN3S
	100	16×40	0.24	350	EKMG401E□□101ML40S
450	0.47	10×12.5	0.24	9.0	EKMG451E□□R47MJC5S
	1.0	10×12.5	0.24	13	EKMG451E□□1R0MJC5S
	2.2	10×12.5	0.24	23	EKMG451E□□2R2MJC5S
	3.3	10×16	0.24	31	EKMG451E□□3R3MJ16S
	4.7	10×20	0.24	40	EKMG451E□□4R7MJ20S
	10	12.5×20	0.24	65	EKMG451E□□100MK20S
	22	16×25	0.24	115	EKMG451E□□220ML25S
	33	16×31.5	0.24	155	EKMG451E□□330MLN3S
	47	16×35.5	0.24	185	EKMG451E□□470MLP1S

### ◆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