

KMG Series

- Endurance with ripple current : 1,000 to 2,000 hours at 105°C
- Solvent resistant type except 350 to 450V_{dc}
(see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

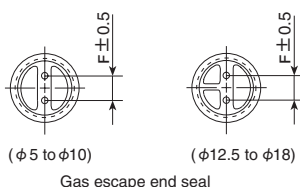
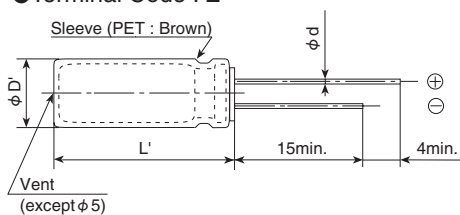


SPECIFICATIONS

Items	Characteristics											
Category	-55 to +105°C(6.3 to 100V _{dc}) -40 to +105°C(160 to 400V _{dc}) -25 to +105°C(450V _{dc})											
Temperature Range												
Rated Voltage Range	6.3 to 450V _{dc}											
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)											
Leakage Current	6.3 to 100V _{dc}						160 to 450V _{dc}					
	I=0.03CV or 4μA, whichever is greater.						CV		Time		After 5minutes	
							CV ≤ 1,000		After 1minute		I=0.03CV+15 max.	
	(after 1 minute)						CV > 1,000				I=0.02CV+25 max.	
Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)												
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V	450V
	tan δ (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 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)											
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	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 (the peak voltage shall not exceed the rated voltage) for 1,000 hours (2,000 hours to meet the following two conditions 1): 160V _{dc} and larger, 2) : φ 12.5 and larger) at 105°C.											
	Capacitance change	≤ ±20% of the initial value										
	D.F. (tan δ)	≤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 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.											
	Rated voltage	6.3 to 100V _{dc}						160 to 450V _{dc}				
	Capacitance change	≤ ±20% of the initial value						≤ ±20% of the initial value				
	D.F. (tan δ)	≤200% of the initial specified value						≤200% of the initial specified value				
	Leakage current	≤The initial specified value						≤500% of the initial specified value				

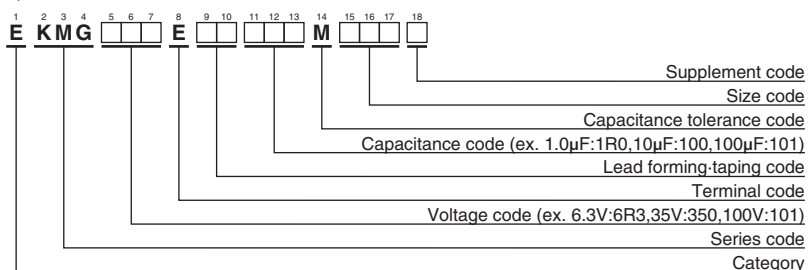
DIMENSIONS [mm]

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



◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.
6.3	220	5 × 11	0.34	140	EKMG6R3E□□221ME11D	63	10	5 × 11	0.10	46	EKMG630E□□100ME11D
	330	6.3 × 11	0.34	190	EKMG6R3E□□331MF11D		22	5 × 11	0.10	71	EKMG630E□□220ME11D
	470	6.3 × 11	0.34	230	EKMG6R3E□□471MF11D		33	6.3 × 11	0.10	100	EKMG630E□□330MF11D
	1,000	8 × 11.5	0.34	380	EKMG6R3E□□102MHB5D		47	6.3 × 11	0.10	120	EKMG630E□□470MF11D
	2,200	10 × 20	0.36	710	EKMG6R3E□□222MJ20S		100	10 × 12.5	0.10	215	EKMG630E□□101MJC5S
	3,300	10 × 20	0.38	840	EKMG6R3E□□332MJ20S		220	10 × 16	0.10	335	EKMG630E□□221MJ16S
	4,700	12.5 × 20	0.40	1,090	EKMG6R3E□□472MK20S		330	10 × 20	0.10	510	EKMG630E□□331MJ20S
	6,800	12.5 × 25	0.44	1,350	EKMG6R3E□□682MK25S		470	12.5 × 20	0.10	640	EKMG630E□□471MK20S
	10,000	16 × 25	0.52	1,650	EKMG6R3E□□103ML25S		1,000	16 × 25	0.10	930	EKMG630E□□102ML25S
	15,000	16 × 35.5	0.62	2,010	EKMG6R3E□□153MLP1S	100	1.0	5 × 11	0.08	15	EKMG101E□□1R0ME11D
10	22,000	18 × 40	0.76	2,350	EKMG6R3E□□223MM40S		2.2	5 × 11	0.08	21	EKMG101E□□2R2MF11D
	220	6.3 × 11	0.24	170	EKMG100E□□221MF11D		3.3	5 × 11	0.08	29	EKMG101E□□3R3ME11D
	330	6.3 × 11	0.24	200	EKMG100E□□331MF11D		4.7	5 × 11	0.08	32	EKMG101E□□4R7ME11D
	470	8 × 11.5	0.24	250	EKMG100E□□471MHB5D		10	6.3 × 11	0.08	54	EKMG101E□□100MF11D
	1,000	10 × 12.5	0.24	460	EKMG100E□□102MJC5S		22	8 × 11.5	0.08	93	EKMG101E□□221MK25S
	2,200	10 × 20	0.26	760	EKMG100E□□222MJ20S		33	8 × 11.5	0.08	130	EKMG101E□□330MHB5D
	3,300	12.5 × 20	0.28	1,000	EKMG100E□□332MK20S		47	10 × 12.5	0.08	165	EKMG101E□□470MJC5S
	4,700	12.5 × 25	0.30	1,260	EKMG100E□□472MK25S		100	10 × 20	0.08	265	EKMG101E□□101MJ20S
	6,800	16 × 25	0.34	1,570	EKMG100E□□682ML25S		220	12.5 × 25	0.08	440	EKMG101E□□220MK25S
	10,000	16 × 35.5	0.42	1,890	EKMG100E□□103MLP1S		330	16 × 25	0.08	540	EKMG101E□□331ML25S
16	15,000	18 × 35.5	0.52	2,180	EKMG100E□□153MMP1S		470	16 × 31.5	0.08	715	EKMG101E□□471MLN3S
	100	5 × 11	0.20	110	EKMG160E□□101ME11D	160	1,000	18 × 40	0.08	985	EKMG101E□□102MM40S
	220	6.3 × 11	0.20	180	EKMG160E□□221MF11D		3.3	6.3 × 11	0.20	28	EKMG161E□□3R3MF11D
	330	8 × 11.5	0.20	260	EKMG160E□□331MHB5D		4.7	6.3 × 11	0.20	34	EKMG161E□□4R7MF11D
	470	8 × 11.5	0.20	310	EKMG160E□□471MHB5D		10	10 × 12.5	0.20	67	EKMG161E□□100MJC5S
	1,000	10 × 16	0.20	560	EKMG160E□□102MJ16S		22	10 × 20	0.20	120	EKMG161E□□220MJ20S
	2,200	12.5 × 20	0.22	920	EKMG160E□□222MK20S		33	10 × 20	0.20	145	EKMG161E□□330MJ20S
	3,300	12.5 × 25	0.24	1,170	EKMG160E□□332MK25S		47	12.5 × 20	0.20	195	EKMG161E□□470MK20S
	4,700	16 × 25	0.26	1,480	EKMG160E□□472ML25S		100	16 × 25	0.20	335	EKMG161E□□101ML25S
	6,800	16 × 31.5	0.30	1,780	EKMG160E□□682MLN3S		220	16 × 31.5	0.20	540	EKMG161E□□221MLN3S
	10,000	18 × 35.5	0.38	2,060	EKMG160E□□103MMP1S		330	18 × 35.5	0.20	705	EKMG161E□□331MMP1S
25	47	5 × 11	0.16	80	EKMG250E□□470ME11D	200	3.3	6.3 × 11	0.20	28	EKMG201E□□3R3MF11D
	100	6.3 × 11	0.16	130	EKMG250E□□101MF11D		4.7	8 × 11.5	0.20	39	EKMG201E□□4R7MHB5D
	220	8 × 11.5	0.16	230	EKMG250E□□221MHB5D		10	10 × 16	0.20	74	EKMG201E□□100MJ16S
	330	8 × 11.5	0.16	310	EKMG250E□□331MHB5D		22	10 × 20	0.20	120	EKMG201E□□220MJ20S
	470	10 × 12.5	0.16	380							

KMG Series

◆STANDARD RATINGS

□ is not solvent resistant.

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.
450	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

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	50	120	300	1k	10k	100k
1.0 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

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.