KMG Series

- Endurance with ripple current : 1,000 to 2,000 hours at 105℃
- Solvent resistant type except 350 to 450Vdc (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

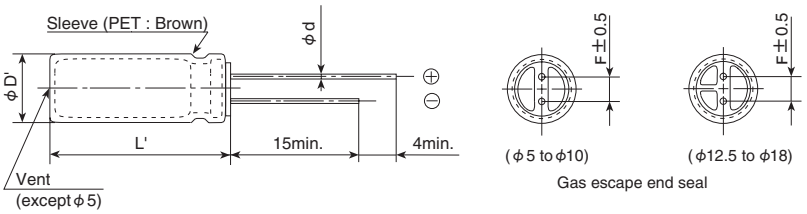
KMQ ↑ Downsized KMG

◆SPECIFICATIONS

Items	Characteristics										
Category Temperature Range	-55 to +105℃(6.3 to 100Vdc) -40 to +105℃(160 to 400Vdc) -25 to +105℃(450Vdc)										
Rated Voltage Range	6.3 to 450Vdc										
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)										
Leakage Current	6.3 to 100Vdc: I=0.03CV or 4μA, whichever is greater. (after 1 minute)						160 to 450Vdc: CV≦1,000: I=0.1CV+40 max. (after 1minute); I=0.03CV+15 max. (after 5minutes); CV>1,000: I=0.04CV+100 max. (after 1minute); I=0.02CV+25 max. (after 5minutes)				
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃)										
Dissipation Factor (tan δ)	Rated voltage (Vdc)	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℃, 120Hz)										
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V	450V
	Z(-25℃)/Z(+20℃)	5	4	3	2	2	2	2	2	3	6	6
	Z(-40℃)/Z(+20℃)	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℃ 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): 160Vdc and larger, 2) :φ12.5 and larger) at 105℃.										
	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℃ after exposing them for 1,000 hours at 105℃ 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 100Vcd	160 to 450Vdc									
	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									

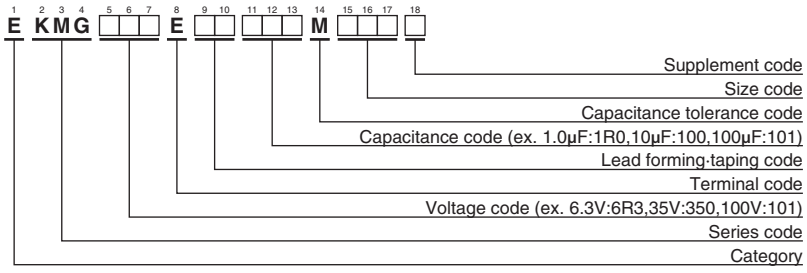
◆DIMENSIONS [mm]

●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



Please refer to "Product code guide (radial lead type)"

KMG Series

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
6.3	220	5×11	0.34	140	EKMG6R3E□□221ME11D
	330	6.3×11	0.34	190	EKMG6R3E□□331MF11D
	470	6.3×11	0.34	230	EKMG6R3E□□471MF11D
	1,000	8×11.5	0.34	380	EKMG6R3E□□102MHB5D
	2,200	10×20	0.36	710	EKMG6R3E□□222MJ20S
	3,300	10×20	0.38	840	EKMG6R3E□□332MJ20S
	4,700	12.5×20	0.40	1,090	EKMG6R3E□□472MK20S
	6,800	12.5×25	0.44	1,350	EKMG6R3E□□682MK25S
	10,000	16×25	0.52	1,650	EKMG6R3E□□103ML25S
	15,000	16×35.5	0.62	2,010	EKMG6R3E□□153MLP1S
	22,000	18×40	0.76	2,350	EKMG6R3E□□223MM40S
10	220	6.3×11	0.24	170	EKMG100E□□221MF11D
	330	6.3×11	0.24	200	EKMG100E□□331MF11D
	470	8×11.5	0.24	250	EKMG100E□□471MHB5D
	1,000	10×12.5	0.24	460	EKMG100E□□102MJC5S
	2,200	10×20	0.26	760	EKMG100E□□222MJ20S
	3,300	12.5×20	0.28	1,000	EKMG100E□□332MK20S
	4,700	12.5×25	0.30	1,260	EKMG100E□□472MK25S
	6,800	16×25	0.34	1,570	EKMG100E□□682ML25S
	10,000	16×35.5	0.42	1,890	EKMG100E□□103MLP1S
	15,000	18×35.5	0.52	2,180	EKMG100E□□153MMP1S
16	100	5×11	0.20	110	EKMG160E□□101ME11D
	220	6.3×11	0.20	180	EKMG160E□□221MF11D
	330	8×11.5	0.20	260	EKMG160E□□331MHB5D
	470	8×11.5	0.20	310	EKMG160E□□471MHB5D
	1,000	10×16	0.20	560	EKMG160E□□102MJ16S
	2,200	12.5×20	0.22	920	EKMG160E□□222MK20S
	3,300	12.5×25	0.24	1,170	EKMG160E□□332MK25S
	4,700	16×25	0.26	1,480	EKMG160E□□472ML25S
	6,800	16×31.5	0.30	1,780	EKMG160E□□682MLN3S
	10,000	18×35.5	0.38	2,060	EKMG160E□□103MMP1S
25	47	5×11	0.16	80	EKMG250E□□470ME11D
	100	6.3×11	0.16	130	EKMG250E□□101MF11D
	220	8×11.5	0.16	230	EKMG250E□□221MHB5D
	330	8×11.5	0.16	310	EKMG250E□□331MHB5D
	470	10×12.5	0.16	380	EKMG250E□□471MJC5S
	1,000	10×20	0.16	680	EKMG250E□□102MJ20S
	2,200	12.5×25	0.18	1,090	EKMG250E□□222MK25S
	3,300	16×25	0.20	1,400	EKMG250E□□332ML25S
	4,700	16×31.5	0.22	1,710	EKMG250E□□472MLN3S
	6,800	18×35.5	0.26	2,040	EKMG250E□□682MMP1S
35	47	5×11	0.14	90	EKMG350E□□470ME11D
	100	6.3×11	0.14	150	EKMG350E□□101MF11D
	220	8×11.5	0.14	270	EKMG350E□□221MHB5D
	330	10×12.5	0.14	350	EKMG350E□□331MJC5S
	470	10×16	0.14	460	EKMG350E□□471MJ16S
	1,000	12.5×20	0.14	810	EKMG350E□□102MK20S
	2,200	16×25	0.16	1,260	EKMG350E□□222ML25S
	3,300	16×35.5	0.18	1,610	EKMG350E□□332MLP1S
	4,700	18×35.5	0.20	1,910	EKMG350E□□472MMP1S
50	1.0	5×11	0.12	13	EKMG500E□□1R0ME11D
	2.2	5×11	0.12	20	EKMG500E□□2R2ME11D
	3.3	5×11	0.12	25	EKMG500E□□3R3ME11D
	4.7	5×11	0.12	30	EKMG500E□□4R7ME11D
	10	5×11	0.12	40	EKMG500E□□100ME11D
	22	5×11	0.12	65	EKMG500E□□220ME11D
	33	5×11	0.12	90	EKMG500E□□330ME11D
	47	6.3×11	0.12	110	EKMG500E□□470MF11D
	100	8×11.5	0.12	180	EKMG500E□□101MHB5D
	220	10×12.5	0.12	300	EKMG500E□□221MJC5S
	330	10×16	0.12	410	EKMG500E□□331MJ16S
	470	10×20	0.12	530	EKMG500E□□471MJ20S
	1,000	12.5×25	0.12	950	EKMG500E□□102MK25S
	2,200	16×35.5	0.14	1,470	EKMG500E□□222MLP1S
	3,300	18×35.5	0.16	1,770	EKMG500E□□332MMP1S

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
63	10	5×11	0.10	46	EKMG630E□□100ME11D
	22	5×11	0.10	71	EKMG630E□□220ME11D
	33	6.3×11	0.10	100	EKMG630E□□330MF11D
	47	6.3×11	0.10	120	EKMG630E□□470MF11D
	100	10×12.5	0.10	215	EKMG630E□□101MJC5S
	220	10×16	0.10	335	EKMG630E□□221MJ16S
	330	10×20	0.10	510	EKMG630E□□331MJ20S
	470	12.5×20	0.10	640	EKMG630E□□471MK20S
	1,000	16×25	0.10	930	EKMG630E□□102ML25S
100	1.0	5×11	0.08	15	EKMG101E□□1R0ME11D
	2.2	5×11	0.08	21	EKMG101E□□2R2ME11D
	3.3	5×11	0.08	29	EKMG101E□□3R3ME11D
	4.7	5×11	0.08	32	EKMG101E□□4R7ME11D
	10	6.3×11	0.08	54	EKMG101E□□100MF11D
	22	8×11.5	0.08	93	EKMG101E□□220MHB5D
	33	8×11.5	0.08	130	EKMG101E□□330MHB5D
	47	10×12.5	0.08	165	EKMG101E□□470MJC5S
	100	10×20	0.08	265	EKMG101E□□101MJ20S
	220	12.5×25	0.08	440	EKMG101E□□221MK25S
	330	16×25	0.08	540	EKMG101E□□331ML25S
	470	16×31.5	0.08	715	EKMG101E□□471MLN3S
	1,000	18×40	0.08	985	EKMG101E□□102MM40S
160	3.3	6.3×11	0.20	28	EKMG161E□□3R3MF11D
	4.7	6.3×11	0.20	34	EKMG161E□□4R7MF11D
	10	10×12.5	0.20	67	EKMG161E□□100MJC5S
	22	10×20	0.20	120	EKMG161E□□220MJ20S
	33	10×20	0.20	145	EKMG161E□□330MJ20S
	47	12.5×20	0.20	195	EKMG161E□□470MK20S
	100	16×25	0.20	335	EKMG161E□□101ML25S
	220	16×31.5	0.20	540	EKMG161E□□221MLN3S
	330	18×35.5	0.20	705	EKMG161E□□331MMP1S
200	3.3	6.3×11	0.20	28	EKMG201E□□3R3MF11D
	4.7	8×11.5	0.20	39	EKMG201E□□4R7MHB5D
	10	10×16	0.20	74	EKMG201E□□100MJ16S
	22	10×20	0.20	120	EKMG201E□□220MJ20S
	33	12.5×20	0.20	160	EKMG201E□□330MK20S
	47	12.5×20	0.20	195	EKMG201E□□470MK20S
	100	16×25	0.20	335	EKMG201E□□101ML25S
	220	18×35.5	0.20	575	EKMG201E□□221MMP1S
250	2.2	6.3×11	0.20	23	EKMG251E□□2R2MF11D
	3.3	8×11.5	0.20	32	EKMG251E□□3R3MHB5D
	4.7	8×11.5	0.20	39	EKMG251E□□4R7MHB5D
	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	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
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

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

KMG Series

◆STANDARD RATINGS

□ is not solvent resistant.

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 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℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.