KME Series

- Endurance with ripple current : 105℃ 1000 hours
- Solvent-proof type except 350 to 400Vdc
- Pb-free design

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	−55 to +105℃(6.3 to 100Vdc) −40 to +105℃(160 to 400Vdc)
Rated Voltage Range	6.3 to 400Vdc
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)
Leakage Current	6.3 to 100Vdc: I=0.03CV or 4μA, whichever is greater. (at 20℃ after 1 minute); I=0.01CV or 3μA, whichever is greater. (at 20℃ after 2 minutes) 160 to 400Vdc: CV≦1000: After 1minute I=0.1CV+40 max., After 5minutes I=0.03CV+15 max.; CV>1000: After 1minute I=0.04CV+100 max., After 5minutes I=0.02CV+25 max. (at 20℃) Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)

Dissipation Factor (tanδ)

Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V
tanδ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	0.20	0.24

When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF 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
Z(−25℃)/Z(+20℃)	4	3	2	2	2	2	2	2	3	6
Z(−40℃)/Z(+20℃)	8	6	4	3	3	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 for 1000 hours at 105℃.

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℃ after exposing them for 1000 hours at 105℃ without voltage applied.

Rated voltage	6.3 to 100Vdc	160 to 400Vdc
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

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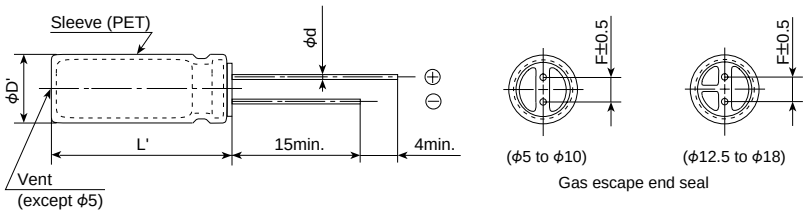
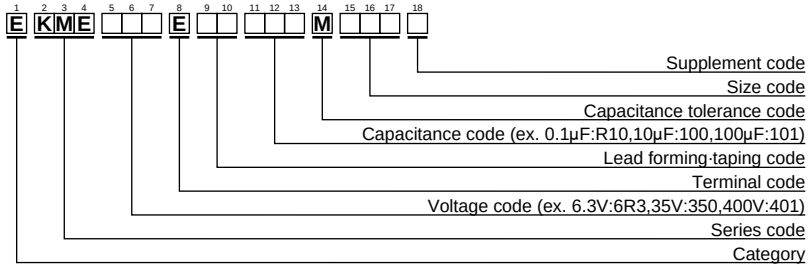
◆DIMENSIONS [mm]

- 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



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KME Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mArms/ 105℃,120Hz)	Part No.
6.3	33	5×11	0.22	54	EKME6R3E□□330ME11D
	47	5×11	0.22	65	EKME6R3E□□470ME11D
	100	5×11	0.22	95	EKME6R3E□□101ME11D
	220	6.3×11	0.22	160	EKME6R3E□□221MF11D
	330	6.3×11	0.22	195	EKME6R3E□□331MF11D
	470	8×11.5	0.22	270	EKME6R3E□□471MHB5D
	1000	10×12.5	0.22	460	EKME6R3E□□102MJC5S
	2200	12.5×20	0.24	810	EKME6R3E□□222MK20S
	3300	12.5×20	0.26	960	EKME6R3E□□332MK20S
	4700	16×25	0.28	1330	EKME6R3E□□472ML25S
	6800	16×25	0.32	1500	EKME6R3E□□682ML25S
	10000	16×31.5	0.40	1765	EKME6R3E□□103MLN3S
	15000	18×35.5	0.50	2075	EKME6R3E□□153MMP1S
10	22	5×11	0.19	49	EKME100E□□220ME11D
	33	5×11	0.19	60	EKME100E□□330ME11D
	47	5×11	0.19	70	EKME100E□□470ME11D
	100	5×11	0.19	105	EKME100E□□101ME11D
	220	6.3×11	0.19	175	EKME100E□□221MF11D
	330	8×11.5	0.19	245	EKME100E□□331MHB5D
	470	8×11.5	0.19	290	EKME100E□□471MHB5D
	1000	10×16	0.19	550	EKME100E□□102MJ16S
	2200	12.5×20	0.21	860	EKME100E□□222MK20S
	3300	12.5×25	0.23	1100	EKME100E□□332MK25S
	4700	16×25	0.25	1400	EKME100E□□472ML25S
	6800	16×31.5	0.29	1690	EKME100E□□682MLN3S
	10000	18×35.5	0.37	1950	EKME100E□□103MMP1S
16	10	5×11	0.16	35	EKME160E□□100ME11D
	22	5×11	0.16	54	EKME160E□□220ME11D
	33	5×11	0.16	64	EKME160E□□330ME11D
	47	5×11	0.16	77	EKME160E□□470ME11D
	100	6.3×11	0.16	125	EKME160E□□101MF11D
	220	8×11.5	0.16	215	EKME160E□□221MHB5D
	330	8×11.5	0.16	260	EKME160E□□331MHB5D
	470	10×12.5	0.16	370	EKME160E□□471MJC5S
	1000	10×20	0.16	640	EKME160E□□102MJ20S
	2200	12.5×25	0.18	1000	EKME160E□□222MK25S
	3300	16×25	0.20	1300	EKME160E□□332ML25S
	4700	16×31.5	0.22	1600	EKME160E□□472MLN3S
	6800	18×35.5	0.26	1900	EKME160E□□682MMP1S
	10000	18×40	0.34	2060	EKME160E□□103MM40S
25	4.7	5×11	0.14	26	EKME250E□□4R7ME11D
	10	5×11	0.14	38	EKME250E□□100ME11D
	22	5×11	0.14	57	EKME250E□□220ME11D
	33	5×11	0.14	69	EKME250E□□330ME11D
	47	5×11	0.14	82	EKME250E□□470ME11D
	100	6.3×11	0.14	135	EKME250E□□101MF11D
	220	8×11.5	0.14	230	EKME250E□□221MHB5D
	330	10×12.5	0.14	335	EKME250E□□331MJC5S
	470	10×16	0.14	440	EKME250E□□471MJ16S
	1000	12.5×20	0.14	770	EKME250E□□102MK20S
	2200	16×25	0.16	1170	EKME250E□□222ML25S
	3300	16×31.5	0.18	1460	EKME250E□□332MLN3S
	4700	18×35.5	0.20	1780	EKME250E□□472MMP1S
	6800	18×40	0.24	1950	EKME250E□□682MM40S
35	4.7	5×11	0.12	28	EKME350E□□4R7ME11D
	10	5×11	0.12	41	EKME350E□□100ME11D
	22	5×11	0.12	61	EKME350E□□220ME11D
	33	5×11	0.12	75	EKME350E□□330ME11D
	47	6.3×11	0.12	100	EKME350E□□470MF11D
	100	8×11.5	0.12	170	EKME350E□□101MHB5D
	220	10×12.5	0.12	300	EKME350E□□221MJC5S
	330	10×16	0.12	400	EKME350E□□331MJ16S
	470	10×20	0.12	520	EKME350E□□471MJ20S
	1000	12.5×25	0.12	920	EKME350E□□102MK25S
	2200	16×31.5	0.14	1340	EKME350E□□222MLN3S
	3300	18×35.5	0.16	1650	EKME350E□□332MMP1S
	4700	18×40	0.18	1900	EKME350E□□472MM40S

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mArms/ 105℃,120Hz)	Part No.
50	0.10	5×11	0.10	1.3	EKME500E□□R10ME11D
	0.22	5×11	0.10	2.9	EKME500E□□R22ME11D
	0.33	5×11	0.10	4.4	EKME500E□□R33ME11D
	0.47	5×11	0.10	7.0	EKME500E□□R47ME11D
	1.0	5×11	0.10	13	EKME500E□□1R0ME11D
	2.2	5×11	0.10	20	EKME500E□□2R2ME11D
	3.3	5×11	0.10	25	EKME500E□□3R3ME11D
	4.7	5×11	0.10	30	EKME500E□□4R7ME11D
	10	5×11	0.10	46	EKME500E□□100ME11D
	22	5×11	0.10	68	EKME500E□□220ME11D
	33	6.3×11	0.10	90	EKME500E□□330MF11D
	47	6.3×11	0.10	110	EKME500E□□470MF11D
	100	8×11.5	0.10	180	EKME500E□□101MHB5D
	220	10×16	0.10	345	EKME500E□□221MJ16S
	330	10×20	0.10	460	EKME500E□□331MJ20S
	470	12.5×20	0.10	610	EKME500E□□471MK20S
	1000	16×25	0.10	1080	EKME500E□□102ML25S
	2200	18×35.5	0.12	1530	EKME500E□□222MMP1S
63	4.7	5×11	0.09	32	EKME630E□□4R7ME11D
	10	5×11	0.09	50	EKME630E□□100ME11D
	22	6.3×11	0.09	82	EKME630E□□220MF11D
	33	6.3×11	0.09	100	EKME630E□□330MF11D
	47	8×11.5	0.09	135	EKME630E□□470MHB5D
	100	10×12.5	0.09	225	EKME630E□□101MJC5S
	220	10×20	0.09	400	EKME630E□□221MJ20S
	330	12.5×20	0.09	540	EKME630E□□331MK20S
	470	12.5×25	0.09	700	EKME630E□□471MK25S
	1000	16×31.5	0.09	1210	EKME630E□□102MLN3S
100	0.10	5×11	0.08	2.6	EKME101E□□R10ME11D
	0.22	5×11	0.08	5.8	EKME101E□□R22ME11D
	0.33	5×11	0.08	7.8	EKME101E□□R33ME11D
	0.47	5×11	0.08	10	EKME101E□□R47ME11D
	1.0	5×11	0.08	15	EKME101E□□1R0ME11D
	2.2	5×11	0.08	23	EKME101E□□2R2ME11D
	3.3	5×11	0.08	29	EKME101E□□3R3ME11D
	4.7	5×11	0.08	34	EKME101E□□4R7ME11D
	10	6.3×11	0.08	56	EKME101E□□100MF11D
	22	8×11.5	0.08	96	EKME101E□□220MHB5D
	33	10×12.5	0.08	140	EKME101E□□330MJC5S
	47	10×16	0.08	180	EKME101E□□470MJ16S
	100	12.5×20	0.08	320	EKME101E□□101MK20S
	220	16×25	0.08	570	EKME101E□□221ML25S
	330	16×25	0.08	700	EKME101E□□331ML25S
	470	16×31.5	0.08	880	EKME101E□□471MLN3S
160	0.47	6.3×11	0.20	9.0	EKME161E□□R47MF11D
	1.0	6.3×11	0.20	12	EKME161E□□1R0MF11D
	2.2	6.3×11	0.20	19	EKME161E□□2R2MF11D
	3.3	8×11.5	0.20	26	EKME161E□□3R3MHB5D
	4.7	8×11.5	0.20	31	EKME161E□□4R7MHB5D
	10	10×16	0.20	59	EKME161E□□100MJ16S
	22	10×20	0.20	95	EKME161E□□220MJ20S
	33	12.5×20	0.20	125	EKME161E□□330MK20S
	47	12.5×25	0.20	165	EKME161E□□470MK25S
	100	16×25	0.20	270	EKME161E□□101ML25S
	220	18×35.5	0.20	450	EKME161E□□221MMP1S
200	0.47	6.3×11	0.20	9.0	EKME201E□□R47MF11D
	1.0	6.3×11	0.20	12	EKME201E□□1R0MF11D
	2.2	6.3×11	0.20	19	EKME201E□□2R2MF11D
	3.3	8×11.5	0.20	26	EKME201E□□3R3MHB5D
	4.7	10×12.5	0.20	36	EKME201E□□4R7MJC5S
	10	10×16	0.20	59	EKME201E□□100MJ16S
	22	10×20	0.20	95	EKME201E□□220MJ20S
	33	12.5×25	0.20	140	EKME201E□□330MK25S
	47	12.5×25	0.20	165	EKME201E□□470MK25S
	100	16×31.5	0.20	285	EKME201E□□101MLN3S
	220	18×40	0.20	470	EKME201E□□221MM40S

□□ : Lead forming / Taping code

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KME Series

◆STANDARD RATINGS

□ is non solvent-proof.

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mArms/ 105℃,120Hz)	Part No.
250	0.47	6.3×11	0.20	9.0	EKME251E□□R47MF11D
	1.0	6.3×11	0.20	12	EKME251E□□1R0MF11D
	2.2	8×11.5	0.20	21	EKME251E□□2R2MHB5D
	3.3	10×12.5	0.20	30	EKME251E□□3R3MJC5S
	4.7	10×12.5	0.20	36	EKME251E□□4R7MJC5S
	10	10×20	0.20	64	EKME251E□□100MJ20S
	22	12.5×25	0.20	110	EKME251E□□220MK25S
	33	12.5×25	0.20	140	EKME251E□□330MK25S
	47	16×25	0.20	180	EKME251E□□470ML25S
	100	18×35.5	0.20	310	EKME251E□□101MMP1S
350	0.47	8×11.5	0.24	10	EKME351E□□R47MHB5D
	1.0	10×12.5	0.24	18	EKME351E□□1R0MJC5S
	2.2	10×16	0.24	30	EKME351E□□2R2MJ16S
	3.3	10×16	0.24	37	EKME351E□□3R3MJ16S

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mArms/ 105℃,120Hz)	Part No.
350	4.7	10×20	0.24	48	EKME351E□□4R7MJ20S
	10	12.5×20	0.24	79	EKME351E□□100MK20S
	22	16×20	0.24	130	EKME351E□□220ML20S
	33	16×25	0.24	175	EKME351E□□330ML25S
	47	16×35.5	0.24	230	EKME351E□□470MLP1S
	100	18×40	0.24	330	EKME351E□□101MM40S
400	1.0	10×12.5	0.24	18	EKME401E□□1R0MJC5S
	2.2	10×16	0.24	30	EKME401E□□2R2MJ16S
	3.3	10×20	0.24	40	EKME401E□□3R3MJ20S
	4.7	10×25	0.24	52	EKME401E□□4R7MJ25S
	10	12.5×25	0.24	79	EKME401E□□100MK25S
	22	16×25	0.24	145	EKME401E□□220ML25S
	33	16×31.5	0.24	185	EKME401E□□330MLN3S
	47	18×31.5	0.24	230	EKME401E□□470MMN3S

□□ : Lead forming / Taping code

◆MAXIMUM ESR

(Ω) at 20℃, 120Hz

μF \ Vdc	6.3	10	16	25	35	50	63	100	160 to 250	350 to 400
0.1						1,660		1,330		
0.22						754		603		
0.33						503		402		
0.47						353		282	706	847
1.0						166		133	332	398
2.2						75.4		60.3	151	181
3.3						50.3		40.3	101	121
4.7						35.3	31.8	28.2	70.6	84.7
10						16.6	14.9	13.3	33.2	39.8
22						7.54	6.79	6.03	15.1	18.1
33					6.03	5.03	4.52	4.02	10.1	12.1
47			5.65	4.94	4.23	3.53	3.18	2.82	7.06	8.47
100	3.70	3.15	2.65	2.32	1.99	1.66	1.49	1.33	3.32	3.98
220	1.66	1.43	1.21	1.06	0.905	0.754	0.679	0.603	1.51	
330	1.11	0.955	0.804	0.704	0.603	0.503	0.452	0.402		
470	0.776	0.671	0.565	0.494	0.423	0.353	0.318	0.282		
1,000	0.370	0.315	0.265	0.232	0.199	0.166	0.149			
2,200	0.181	0.158	0.136	0.121	0.106	0.0905				
3,300	0.131	0.116	0.101	0.0905	0.0804					
4,700	0.0988	0.0882	0.0776	0.0706	0.0635					
6,800	0.0781	0.0707	0.0634	0.0585						
10,000	0.0630	0.0581	0.0531							
15,000	0.0531									

◆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

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