

# KME Series

- Endurance with ripple current : 105°C 1,000 hours
- Solvent-proof type except 350 to 400V<sub>dc</sub>
- RoHS Compliant

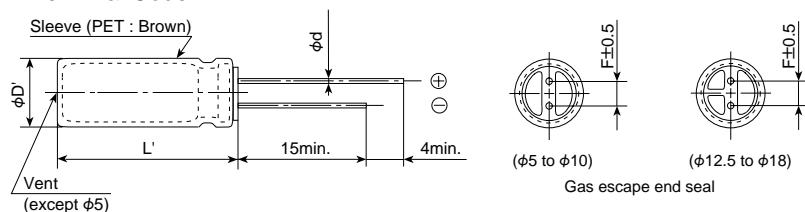


## ◆SPECIFICATIONS

Items	Characteristics	
Category	-55 to +105°C(6.3 to 100V <sub>dc</sub> ) -40 to +105°C(160 to 400V <sub>dc</sub> )	
Temperature Range		
Rated Voltage Range	6.3 to 400V <sub>dc</sub>	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	6.3 to 100V <sub>dc</sub>	
	160 to 400V <sub>dc</sub>	
	I=0.03CV or 4μA, whichever is greater. (at 20°C after 1 minute)	CV \ Time   After 1minute   After 5minutes
	I=0.01CV or 3μA, whichever is greater. (at 20°C after 2 minutes)	CV≤1,000   I=0.1CV+40 max.   I=0.03CV+15 max.
	CV>1,000   I=0.04CV+100 max.   I=0.02CV+25 max.	
	(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
	tanδ (Max.)	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08 0.08 0.20 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 <sub>dc</sub> )	6.3V 10V 16V 25V 35V 50V 63V 100V 160 to 250V 350 to 400V
	Z(-25°C)/Z(+20°C)	4 3 2 2 2 2 2 2 3 6
	Z(-40°C)/Z(+20°C)	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°C after subjected to DC voltage with the rated ripple current is applied for 1,000 hours 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 1,000 hours at 105°C without voltage applied.	
	Rated voltage	6.3 to 100V <sub>dc</sub> 160 to 400V <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

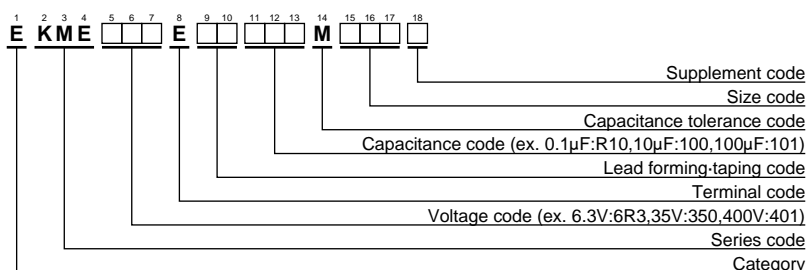
## ◆DIMENSIONS [mm]

- 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



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◆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	0.22	54	EKME6R3E□□330ME11D	50	0.10	5×11	0.10	1.3	EKME500E□□R10ME11D	
	47	5×11	0.22	65	EKME6R3E□□470ME11D		0.22	5×11	0.10	2.9	EKME500E□□R22ME11D	
	100	5×11	0.22	95	EKME6R3E□□101ME11D		0.33	5×11	0.10	4.4	EKME500E□□R33ME11D	
	220	6.3×11	0.22	160	EKME6R3E□□221MF11D		0.47	5×11	0.10	7.0	EKME500E□□R47ME11D	
	330	6.3×11	0.22	195	EKME6R3E□□331MF11D		1.0	5×11	0.10	13	EKME500E□□R10ME11D	
	470	8×11.5	0.22	270	EKME6R3E□□471MHB5D		2.2	5×11	0.10	20	EKME500E□□R22ME11D	
	1,000	10×12.5	0.22	460	EKME6R3E□□102MJC5S		3.3	5×11	0.10	25	EKME500E□□R33ME11D	
	2,200	12.5×20	0.24	810	EKME6R3E□□222MK20S		4.7	5×11	0.10	30	EKME500E□□R47ME11D	
	3,300	12.5×20	0.26	960	EKME6R3E□□332MK20S		10	5×11	0.10	46	EKME500E□□R100ME11D	
	4,700	16×25	0.28	1,330	EKME6R3E□□472ML25S		22	5×11	0.10	68	EKME500E□□R220ME11D	
	6,800	16×25	0.32	1,500	EKME6R3E□□682ML25S		33	6.3×11	0.10	90	EKME500E□□R330MF11D	
	10,000	16×31.5	0.40	1,765	EKME6R3E□□103MLN3S		47	6.3×11	0.10	110	EKME500E□□R470MF11D	
15,000	18×35.5	0.50	2,075	EKME6R3E□□153MMP1S	100	8×11.5	0.10	180	EKME500E□□R101MHB5D			
10	22	5×11	0.19	49	EKME100E□□220ME11D	220	10×16	0.10	345	EKME500E□□R221MJ16S		
	33	5×11	0.19	60	EKME100E□□330ME11D	330	10×20	0.10	460	EKME500E□□R331MJ20S		
	47	5×11	0.19	70	EKME100E□□470ME11D	470	12.5×20	0.10	610	EKME500E□□R471MK20S		
	100	5×11	0.19	105	EKME100E□□101ME11D	1,000	16×25	0.10	1,080	EKME500E□□R102ML25S		
	220	6.3×11	0.19	175	EKME100E□□221MF11D	2,200	18×35.5	0.12	1,530	EKME500E□□R222MMP1S		
	330	8×11.5	0.19	245	EKME100E□□331MHB5D	63	4.7	5×11	0.09	32	EKME630E□□R47ME11D	
	470	8×11.5	0.19	290	EKME100E□□471MHB5D		10	5×11	0.09	50	EKME630E□□R100ME11D	
	1,000	10×16	0.19	550	EKME100E□□102MJ16S		22	6.3×11	0.09	82	EKME630E□□R220MF11D	
	2,200	12.5×20	0.21	860	EKME100E□□222MK20S		33	6.3×11	0.09	100	EKME630E□□R330MF11D	
	3,300	12.5×25	0.23	1,100	EKME100E□□332MK25S		47	8×11.5	0.09	135	EKME630E□□R470MHB5D	
	4,700	16×25	0.25	1,400	EKME100E□□472ML25S		100	10×12.5	0.09	225	EKME630E□□R101MJC5S	
	6,800	16×31.5	0.29	1,690	EKME100E□□682MLN3S		220	10×20	0.09	400	EKME630E□□R221MJ20S	
10,000	18×35.5	0.37	1,950	EKME100E□□103MMP1S	330		12.5×20	0.09	540	EKME630E□□R331MK20S		
16	10	5×11	0.16	35	EKME160E□□100ME11D		470	12.5×25	0.09	700	EKME630E□□R471MK25S	
	22	5×11	0.16	54	EKME160E□□220ME11D		1,000	16×31.5	0.09	1,210	EKME630E□□R102MLN3S	
	33	5×11	0.16	64	EKME160E□□330ME11D		100	0.10	5×11	0.08	2.6	EKME101E□□R10ME11D
	47	5×11	0.16	77	EKME160E□□470ME11D			0.22	5×11	0.08	5.8	EKME101E□□R22ME11D
	100	6.3×11	0.16	125	EKME160E□□101MF11D	0.33		5×11	0.08	7.8	EKME101E□□R33ME11D	
	220	8×11.5	0.16	215	EKME160E□□221MHB5D	0.47		5×11	0.08	10	EKME101E□□R47ME11D	
	330	8×11.5	0.16	260	EKME160E□□331MHB5D	1.0		5×11	0.08	15	EKME101E□□R10ME11D	
	470	10×12.5	0.16	370	EKME160E□□471MJC5S	2.2		5×11	0.08	23	EKME101E□□R22ME11D	
	1,000	10×20	0.16	640	EKME160E□□102MJ20S	3.3		5×11	0.08	29	EKME101E□□R33ME11D	
	2,200	12.5×25	0.18	1,000	EKME160E□□222MK25S	4.7		5×11	0.08	34	EKME101E□□R47ME11D	
	3,300	16×25	0.20	1,300	EKME160E□□332ML25S	10		6.3×11	0.08	56	EKME101E□□R100MF11D	
	4,700	16×31.5	0.22	1,600	EKME160E□□472MLN3S	22		8×11.5	0.08	96	EKME101E□□R220MHB5D	
6,800	18×35.5	0.26	1,900	EKME160E□□682MMP1S	33	10×12.5		0.08	140	EKME101E□□R330MJC5S		
10,000	18×40	0.34	2,060	EKME160E□□103MM40S	47	10×16		0.08	180	EKME101E□□R470MJ16S		
25	4.7	5×11	0.14	26	EKME250E□□R47ME11D	100	12.5×20	0.08	320	EKME101E□□R101MK20S		
	10	5×11	0.14	38	EKME250E□□100ME11D	220	16×25	0.08	570	EKME101E□□R221ML25S		
	22	5×11	0.14	57	EKME250E□□220ME11D	330	16×25	0.08	700	EKME101E□□R331ML25S		
	33	5×11	0.14	69	EKME250E□□330ME11D	470	16×31.5	0.08	880	EKME101E□□R471MLN3S		
	47	5×11	0.14	82	EKME250E□□470ME11D	160	0.47	6.3×11	0.20	9.0	EKME161E□□R47MF11D	
	100	6.3×11	0.14	135	EKME250E□□101MF11D		1.0	6.3×11	0.20	12	EKME161E□□R10MF11D	
	220	8×11.5	0.14	230	EKME250E□□221MHB5D		2.2	6.3×11	0.20	19	EKME161E□□R22MF11D	
	330	10×12.5	0.14	335	EKME250E□□331MJC5S		3.3	8×11.5	0.20	26	EKME161E□□R33MHB5D	
	470	10×16	0.14	440	EKME250E□□471MJ16S		4.7	8×11.5	0.20	31	EKME161E□□R47MHB5D	
	1,000	12.5×20	0.14	770	EKME250E□□102MK20S		10	10×16	0.20	59	EKME161E□□R100MJ16S	
	2,200	16×25	0.16	1,170	EKME250E□□222ML25S		22	10×20	0.20	95	EKME161E□□R220MJ20S	
	3,300	16×31.5	0.18	1,460	EKME250E□□332MLN3S		33	12.5×20	0.20	125	EKME161E□□R330MK20S	
4,700	18×35.5	0.20	1,780	EKME250E□□472MMP1S	47		12.5×25	0.20	165	EKME161E□□R470MK25S		
6,800	18×40	0.24	1,950	EKME250E□□682MM40S	100		16×25	0.20	270	EKME161E□□R101ML25S		
35	4.7	5×11	0.12	28	EKME350E□□R47ME11D		220	18×35.5	0.20	450	EKME161E□□R221MMP1S	
	10	5×11	0.12	41	EKME350E□□100ME11D		200	0.47	6.3×11	0.20	9.0	EKME201E□□R47MF11D
	22	5×11	0.12	61	EKME350E□□220ME11D	1.0		6.3×11	0.20	12	EKME201E□□R10MF11D	
	33	5×11	0.12	75	EKME350E□□330ME11D	2.2		6.3×11	0.20	19	EKME201E□□R22MF11D	
	47	6.3×11	0.12	100	EKME350E□□470MF11D	3.3		8×11.5	0.20	26	EKME201E□□R33MHB5D	
	100	8×11.5	0.12	170	EKME350E□□101MHB5D	4.7		10×12.5	0.20	36	EKME201E□□R47MJC5S	
	220	10×12.5	0.12	300	EKME350E□□221MJC5S	10		10×16	0.20	59	EKME201E□□R100MJ16S	
	330	10×16	0.12	400	EKME350E□□331MJ16S	22		10×20	0.20	95	EKME201E□□R220MJ20S	
	470	10×20	0.12	520	EKME350E□□471MJ20S	33		12.5×25	0.20	140	EKME201E□□R330MK25S	
	1,000	12.5×25	0.12	920	EKME350E□□102MK25S	47		12.5×25	0.20	165	EKME201E□□R470MK25S	
	2,200	16×31.5	0.14	1,340	EKME350E□□222MLN3S	100		16×31.5	0.20	285	EKME201E□□R101MLN3S	
	3,300	18×35.5	0.16	1,650	EKME350E□□332MMP1S	220		18×40	0.20	470	EKME201E□□R221MM40S	
4,700	18×40	0.18	1,900	EKME350E□□472MM40S								

□□ : Lead forming / Taping code

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◆STANDARD RATINGS

□ is non solvent-proof.

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.	WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (mA <sub>rms</sub> /105°C,120Hz)	Part No.	
250	0.47	6.3 × 11	0.20	9.0	EKME251E□□R47MF11D	350	4.7	10 × 20	0.24	48	EKME351E□□4R7MJ20S	
	1.0	6.3 × 11	0.20	12	EKME251E□□1R0MF11D		10	12.5 × 20	0.24	79	EKME351E□□100MK20S	
	2.2	8 × 11.5	0.20	21	EKME251E□□2R2MHB5D		22	16 × 20	0.24	130	EKME351E□□220ML20S	
	3.3	10 × 12.5	0.20	30	EKME251E□□3R3MJC5S		33	16 × 25	0.24	175	EKME351E□□330ML25S	
	4.7	10 × 12.5	0.20	36	EKME251E□□4R7MJC5S		47	16 × 35.5	0.24	230	EKME351E□□470MLP1S	
	10	10 × 20	0.20	64	EKME251E□□100MJ20S		100	18 × 40	0.24	330	EKME351E□□101MM40S	
	22	12.5 × 25	0.20	110	EKME251E□□220MK25S		400	1.0	10 × 12.5	0.24	18	EKME401E□□1R0MJC5S
	33	12.5 × 25	0.20	140	EKME251E□□330MK25S			2.2	10 × 16	0.24	30	EKME401E□□2R2MJ16S
	47	16 × 25	0.20	180	EKME251E□□470ML25S			3.3	10 × 20	0.24	40	EKME401E□□3R3MJ20S
100	18 × 35.5	0.20	310	EKME251E□□101MMP1S	4.7	10 × 25		0.24	52	EKME401E□□4R7MJ25S		
350	0.47	8 × 11.5	0.24	10	EKME351E□□R47MHB5D	10		12.5 × 25	0.24	79	EKME401E□□100MK25S	
	1.0	10 × 12.5	0.24	18	EKME351E□□1R0MJC5S	22		16 × 25	0.24	145	EKME401E□□220ML25S	
	2.2	10 × 16	0.24	30	EKME351E□□2R2MJ16S	33		16 × 31.5	0.24	185	EKME401E□□330MLN3S	
	3.3	10 × 16	0.24	37	EKME351E□□3R3MJ16S	47		18 × 31.5	0.24	230	EKME401E□□470MMN3S	

□ : Lead forming / Taping code

◆MAXIMUM ESR

(Ω) at 20°C, 120Hz

μF \ V <sub>dc</sub>	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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