

KMESeries

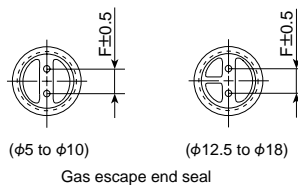
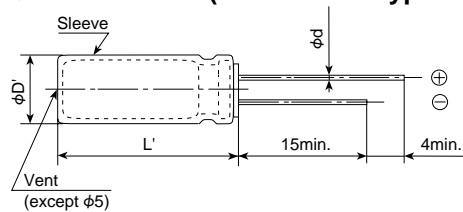
- Endurance with ripple current : 105°C 1000 hours
- Solvent-proof type except 350 to 400V_{dc}
(see PRECAUTIONS AND GUIDELINES)



◆SPECIFICATIONS

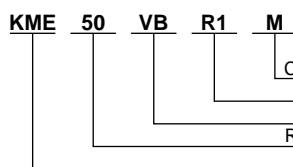
Items	Characteristics											
Category	-55 to +105°C(6.3 to 100V _{dc}) -40 to +105°C(160 to 400V _{dc})											
Temperature Range												
Rated Voltage Range	6.3 to 400V _{dc}											
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)											
Leakage Current	6.3 to 100V _{dc}										160 to 400V _{dc}	
	I=0.03CV or 4μA, whichever is greater. (at 20°C after 1 minute)										CV \ Time	
	I=0.01CV or 3μA, whichever is greater. (at 20°C after 2 minutes)										After 1minute	
											After 5minutes	
										CV≤1000	I=0.1CV+40	I=0.03CV+15
										CV>1000	I=0.04CV+100	I=0.02CV+25
											(at 20°C)	
Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)												
Dissipation Factor (tanδ)	Rated voltage (V _{dc})	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°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	
	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 1000 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 1000 hours at 105°C without voltage applied.											
	Rated voltage	6.3 to 100V _{dc}					160 to 400V _{dc}					
	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 (Radial Lead Type=VB) [mm]



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



Capacitance	Code
0.1μF	R1
0.47μF	R47
1.0μF	1
4.7μF	4R7
10μF	10
100μF	100

◆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

◆STANDARD RATINGS

μF \ V_{dc}	6.3		10		16		25		35		50		63		100							
0.1											5×11	1.3			5×11	2.6						
0.22											5×11	2.9			5×11	5.8						
0.33											5×11	4.4			5×11	7.8						
0.47											5×11	7			5×11	10						
1.0	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Case size $\phi\text{D}\times\text{L}$ (mm)</p> <p>Rated ripple current (mA rms) at 105°C, 120Hz</p> </div> </div>																5×11	13			5×11	15
2.2																	5×11	20			5×11	23
3.3																	5×11	25			5×11	29
4.7																	5×11	30	5×11	32	5×11	34
10																	5×11	46	5×11	50	6.3×11	56
22										5×11	68	6.3×11	82	8×11.5	96							
33									5×11	75	6.3×11	90	6.3×11	100	10×12.5	140						
47					5×11	77	5×11	82	6.3×11	100	6.3×11	110	8×11.5	135	10×16	180						
100	5×11	95	5×11	105	6.3×11	125	6.3×11	135	8×11.5	170	8×11.5	180	10×12.5	225	12.5×20	320						
220	6.3×11	160	6.3×11	175	8×11.5	215	8×11.5	230	10×12.5	300	10×16	345	10×20	400	16×25	570						
330	6.3×11	195	8×11.5	245	8×11.5	260	10×12.5	335	10×16	400	10×20	460	12.5×20	540	16×25	700						
470	8×11.5	270	8×11.5	290	10×12.5	370	10×16	440	10×20	520	12.5×20	610	12.5×25	700	16×31.5	880						
1,000	10×12.5	460	10×16	550	10×20	640	12.5×20	770	12.5×25	920	16×25	1,080	16×31.5	1,210								
2,200	12.5×20	810	12.5×20	860	12.5×25	1,000	16×25	1,170	16×31.5	1,340	18×35.5	1,530										
3,300	12.5×20	960	12.5×25	1,100	16×25	1,300	16×31.5	1,460	18×35.5	1,650												
4,700	16×25	1,330	16×25	1,400	16×31.5	1,600	18×35.5	1,780	18×40	1,900												
6,800	16×25	1,500	16×31.5	1,690	18×35.5	1,900	18×40	1,950														
10,000	16×31.5	1,765	18×35.5	1,950	18×40	2,060																
15,000	18×35.5	2,075																				

Non solvent-proof

μF \ V_{dc}	160		200		250		350		400	
0.47	6.3×11	9	6.3×11	9	6.3×11	9	8×11.5	10		
1.0	6.3×11	12	6.3×11	12	6.3×11	12	10×12.5	18	10×12.5	18
2.2	6.3×11	19	6.3×11	19	8×11.5	21	10×16	30	10×16	30
3.3	8×11.5	26	8×11.5	26	10×12.5	30	10×16	37	10×20	40
4.7	8×11.5	31	10×12.5	36	10×12.5	36	10×20	48	10×25	52
10	10×16	59	10×16	59	10×20	64	12.5×20	79	12.5×25	79
22	10×20	95	10×20	95	12.5×25	110	16×20	130	16×25	145
33	12.5×20	125	12.5×25	140	12.5×25	140	16×25	175	16×31.5	185
47	12.5×25	165	12.5×25	165	16×25	180	16×35.5	230	18×31.5	230
100	16×25	270	16×31.5	285	18×35.5	310	18×40	330		
220	18×35.5	450	18×40	470						

◆MAXIMUM ESR

(Ω) at 20°C, 120Hz

μF \ V_{dc}	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	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									