

KM series

Features

- ◆ Rated working voltage range 6.3 to 100V DC/160 to 450V DC at operation temperature range -40 to +105°C/-25 to +105°C.
- ◆ This series is for communication equipments, switching power supply, industrial measuring instruments, automotive electric products, etc.



Specifications

Item	Performance Characteristics																																												
Operating Temperature Range	-40~+105°C	-25~+105°C																																											
Rate Voltage Range	6.3~100VDC	160~450VDC																																											
Capacitance Range	0.1~33000µF																																												
Capacitance Tolerance	±20% (120Hz, +20°C)																																												
Leakage current (+20°C, max.)	I≤0.01CV或3 (µA)	I≤0.03CV (µA)																																											
	After 2 minutes, whichever is greater measured with rated working voltage applied																																												
Dissipation factor (tgδ)	<table border="1"> <tr> <td>Working Voltage(VDC)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>D.F.(%)max</td> <td>22</td> <td>17</td> <td>15</td> <td>14</td> <td>12</td> <td>10</td> <td>9</td> <td>8</td> </tr> <tr> <td>Working Voltage(VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> <td></td> <td></td> </tr> <tr> <td>D.F.(%)max</td> <td>12</td> <td>12</td> <td>12</td> <td>15</td> <td>15</td> <td>17</td> <td></td> <td></td> </tr> </table>									Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	D.F.(%)max	22	17	15	14	12	10	9	8	Working Voltage(VDC)	160	200	250	350	400	450			D.F.(%)max	12	12	12	15	15	17		
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																																				
	D.F.(%)max	22	17	15	14	12	10	9	8																																				
	Working Voltage(VDC)	160	200	250	350	400	450																																						
D.F.(%)max	12	12	12	15	15	17																																							
	For capacitance>1000µF, Add 2% per another 1000µF (120Hz, +20°C)																																												
Low Temperature Characteristics (120Hz)	Impedance ratio max.																																												
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	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100																																				
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2																																				
Z-40°C / Z+20°C	8	6	4	3	3	3	3	3																																					
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Working Voltage(VDC)	160	200	250	350	400	450																																							
Z-25°C / Z+20°C	2	2	3	5	6	15																																							
For capacitance>1000µF, Add 0.5 per another 1000µF For Z-25°C / Z+20°C Add 1.0 per another 1000µF For Z-40°C / Z+20°C																																													
Load Life	Test conditions Duration time : 2000Hrs Ambient temperature : +105°C Applied voltage : Rated DC working voltage After test requirement at +20°C Capacitance change : ≤±20% of the initial measured value Dissipation factor : ≤200% of the initial specified value Leakage current : ≤The initial specified value																																												
Shelf Life	Test conditions Duration time : 1000Hrs Ambient temperature : +105°C Applied voltage : None After test requirement at +20°C : Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes																																												

Multiplier for Ripple Current vs. Frequency

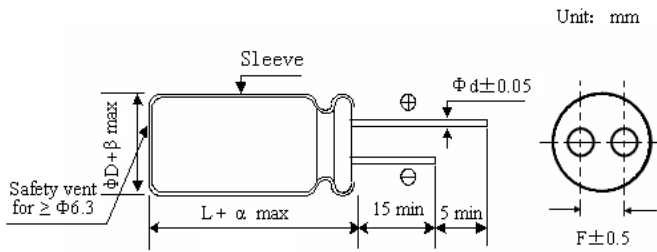
CAP(µF)	50(60)	120	400	1k	10k	50k-100k
Frequency (Hz)						
CAP ≤ 10	0.8	1	1.30	1.45	1.65	1.70
10<CAP≤ 100	0.8	1	1.23	1.36	1.48	1.53
100<CAP≤1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

Multiplier for Ripple Current vs. Temperature

Temperature°C	45	60	70	85	105
Factor	2.10	1.90	1.40	1.25	1.00

KM series

Diagram of Dimensions



ΦD	5	6.3	8		10	13	16	18	22
F	2.0	2.5	3.5		5.0	5.0	7.5	7.5	10
Φd	0.5		L<20	L≥20	0.6		0.8		
			0.5	0.6					

a	D<18	D=18		D>18
		L<35.5	L≥35.5	
	1.5	1.5	2.0	2.0

Case Size

Voltage	6.3V		10V		16V		25V		35V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
4.7							5×11	26	5×11	28
6.8							5×11	32	5×11	36
10					5×11	35	5×11	38	5×11	46
22			5×11	45	5×11	54	5×11	58	5×11	61
33	5×11	54	5×11	60	5×11	64	5×11	69	5×11	75
47	5×11	65	5×11	70	5×11	100	5×11	105	5×11	110
68	5×11	75	5×11	80	5×11	105	5×11	120	6.3×12	140
100	5×11	96	5×11	105	5×11	115	6.3×12	145	6.3×12	160
					6.3×12	130			8×12	175
120	5×11	110	5×11	110	6.3×12	155	6.3×12	175	8×12	185
			6.3×12	120						
150	5×11	120	5×11	120	6.3×12	170	6.3×12	180	8×12	215
	6.3×12	130	6.3×12	145			8×12	200		
180	6.3×12	140	6.3×12	160	6.3×12	190	8×12	210	8×12	225
									10×13	265
220	6.3×12	160	6.3×12	175	6.3×12	215	8×12	235	8×12	255
									10×13	300
330	6.3×12	195	6.3×12	205	6.3×12	225	8×12	310	10×13	400
			8×12	255	8×12	265	10×13	335		
470	6.3×12	220	6.3×12	235	8×12	370	8×12	410	10×16	520
	8×12	270	8×12	290	8×16	400	10×13	440		
560	8×12	310	8×12	330			10×16	460	10×20	540
			10×13	340	10×13	410				
680	8×12	360	8×12	365	8×16	470			10×20	560
			8×16	410	10×13	480	10×16	520	13×21	650
820	8×12	390	10×13	480	10×16	550	10×20	640	13×21	760
1000	10×13	430	10×13	520	10×13	540	10×20	710	13×21	830
					10×16	600				
1200	10×13	550	10×16	630	10×20	700	13×21	810	13×21	900
									13×25	930

Ripple Current (mA,rms) at 105°C 100KHz
Max Impedance (Ω) at 20°C 100KHz

KM series

Case Size

Φ D×L

Voltage	6.3V		10V		16V		25V		35V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
1500	10×16	625	8×20	715	10×20	820	13×21	900	13×25	960
			10×16	770						
1800	10×16	710	10×20	820	13×21	920	13×25	1050	16×25	1150
2200	10×16	750	10×20	860	13×21	1000	13×25	1200	16×25	1290
	10×20	775							16×32	1350
2700	10×20	850	10×25	880	13×21	1080	16×25	1320	16×32	1480
			13×21	920						
3300	13×21	960	13×21	1100	13×25	1200	16×25	1460	16×36	1650
3900	13×21	1000	13×21	1280	16×25	1490	16×32	1670	18×32	1820
4700	13×21	1150	13×25	1350	16×25	1600	16×36	1780	18×35	1900
5600	13×25	1300	16×25	1490	16×32	1720	16×36	1890	18×35	2000
6800	13×25	1480	16×25	1670	16×32	1900	18×35	2050		
8200	16×25	1520	16×32	1840	16×36	2020	18×35	2090		
10000	16×25	1680	16×36	1900	16×36	2060				
12000	16×32	1750	16×36	2050	18×35	2150				
15000	16×36	2075	18×35	2180						
18000	18×32	2150	18×35	2205						
22000	18×41	2300								

Voltage	50V		63V		100V		160V		200V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
0.1	5×11	1.3	5×11	1.3	5×11	1.9				
0.22	5×11	2.9	5×11	2.9	5×11	3.4				
0.33	5×11	4	5×11	4.5	5×11	5				
0.47	5×11	7	5×11	7	5×11	10	5×11	11	5×11	12
1	5×11	13	5×11	13	5×11	15	5×11	17	6.3×12	17
							6.3×12	19		
2.2	5×11	20	5×11	20	5×11	21	6.3×12	25	6.3×12	25
3.3	5×11	26	5×11	28	5×11	30	6.3×12	32	6.3×12	33
									8×12	35
4.7	5×11	32	5×11	32	5×11	35	6.3×12	38	6.3×12	42
							8×12	42	8×12	50
6.8	5×11	40	5×11	40	6.3×12	47	8×12	56	8×12	60
									10×13	63
10	5×11	48	5×11	42	6.3×12	56	8×12	63	8×12	78
			6.3×12	48	8×12	60	10×13	75	10×13	85
22	5×11	60	6.3×12	82	6.3×12	75	10×13	95	10×16	125
							10×16	105		

Ripple Current (mA,rms) at 105°C 100KHz
 Max Impedance (Ω) at 20°C 100KHz

KM series

Case Size

Voltage	50V		63V		100V		160V		200V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
22	6.3×12	70			8×12	90	10×20	120	10×20	130
33	5×11	75	6.3×12	100	8×12	140	10×16	155	10×16	160
									10×20	180
47	6.3×12	115	6.3×12	125	8×16	165	10×20	180	13×20	220
			8×12	140	10×13	170	13×21	210		
68	6.3×12	130	8×12	155	10×16	240	13×21	260	13×21	270
	8×12	155	10×13	185			13×25	280	13×25	300
100	8×12	200	10×13	230	10×20	280	13×25	310	13×25	320
							16×25	330	16×25	345
120	8×16	220	10×16	255	10×20	295	13×25	320	16×25	360
	10×13	225					16×25	350	16×32	390
150	10×13	245	10×16	270	13×21	340	16×25	470	16×25	440
					13×25	360			16×32	480
180	10×13	260	10×16	310	13×21	410	16×25	550	16×32	550
	10×16	280			13×25	480			16×36	560
220	10×13	345	10×16	375	13×25	520	16×32	560	16×36	670
	10×16	360	10×20	400			16×36	580	18×32	690
330	10×16	450	13×21	580	16×25	690	18×32	660	18×35	750
	10×20	470					18×35	700	18×41	810
470	10×20	600	13×20	690	16×25	820	18×35	810	18×41	840
	13×21	650			16×32	860	18×41	860	22×41	925
560	13×21	660	13×25	770	16×36	900			18×51	940
680	13×21	700	16×25	880	16×36	920				
	13×25	770			18×32	950				
820	13×25	850	16×25	920	18×35	1020				
1000	13×25	890	16×32	1185	18×41	1200				
	16×25	1000								
1200	16×25	1150	16×36	1200						
1500	16×32	1300	18×32	1350						
1800	16×36	1480								
2200	16×36	1530								
2700	18×35	1590								
3300	18×35	1750								

Ripple Current (mA,rms) at 105°C 100KHz
Max Impedance (Ω) at 20°C 100KHz

KM series

Case Size

Φ D×L

Voltage	250V		350V		400V		450V	
	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
0.47	5×11	8	6.3×12	13	6.3×12	14	6.3×12	14
1	6.3×12	16	6.3×12	16	6.3×12	17	8×12	20
2.2	6.3×12	20	8×12	31	6.3×15	34	10×13	35
	8×12	25			8×12	35		
3.3	8×12	33	8×12	34	6.3×15	35	8×12	32
					8×12	36	10×13	38
			10×13	38	10×13	41	10×16	42
4.7	8×12	46	8×12	47	8×12	48	8×16	44
					10×13	55		
	10×13	50	10×13	52	10×16	65	10×13	45
							10×16	50
6.8	8×12	60	10×13	79	8×14	75	10×16	65
	10×13	70			8×16	80	10×20	72
					10×16	90		
10	8×12	68	10×16	87	10×16	110	10×20	92
	10×13	80	10×20	92	10×20	125	13×20	98
22	10×16	110	13×20	160	13×20	170	13×20	165
	10×20	125						
	13×21	150	13×25	170	13×25	190	13×25	180
33	13×21	190	13×21	180	13×21	235	16×25	210
			13×25	200	13×25	260		
47	13×21	230	16×25	245	16×25	300	16×32	340
	13×25	240	16×32	260	16×32	360	16×36	380
							18×25	350
56	13×21	255	16×25	330	16×25	360	16×32	370
	13×25	280			16×32	400	16×36	400
							18×25	370
68	13×25	310	16×32	370	18×25	440	16×36	450
					16×36	480	18×32	460
	16×25	355			18×32	500	18×35	470
82	13×25	370	16×36	385	18×25	470	18×32	465
					18×32	520	18×35	480
100	16×25	375	18×32	390	18×32	530	18×35	525
	16×32	395			18×35	550	18×41	560
120	16×32	420	16×41	400	18×32	550	18×41	580
					18×35	580	22×41	650
	16×36	430	18×35	400	18×35	580		
150	16×36	460	18×41	420	18×35	610	18×45	690
	18×32	460			18×41	650		
180	18×32	465	18×41	430	18×45	700		
	18×35	470						
220	18×35	650	22×41	500				
	18×41	700						
330	18×45	720						
	22×41	780						

Ripple Current (mA,rms) at 105°C 100KHz
 Max Impedance (Ω) at 20°C 100KHz