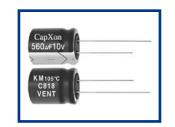


# KM Series Standard 105°C

#### Features

- ◆ Used in communication equipments, switching power supply, etc.
- ◆ Safety vent construction design.
- ◆ For detail specifications, please refer to Engineering Bulletin No. E102
- ◆ RoHS Compliant



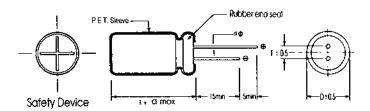
## Specifications

Item				Perf	ormar	nce C	haract	eristi	cs					
Operating Temperature Range	Performance Characteristics  -40 to +105°C  -25 to +105°C													
Rated Voltage Range	6.3 to 10	160 to 450 VDC												
Capacitance Range	0.1 to 22000 μF													
Capacitance Tolerance				<u>±</u>	20%	(1201	•							
Leakage Current (+20°C,max.)			. ,	ed with	n rated	,	$I \! \leqq \! 0.03 \; \text{CV} \; \; (\; \mu \; \text{A})$ After 1 minute with rated working voltage applied.							
	Working Voltage(VDC)	6.3	10	16	25	35	50	63	100					
Dissipation Factor	D.F. (%)max.	22	17	15	14	12	10	9	8					
(tan δ , at 20°C , 120Hz)	Working Voltage(VDC)	160	200	250	350	400	450							
,	D.F. (%)max.	12	12	12	15	15	17							
	For capacitance > 1000 φ I	F, add	l 2% p	er an	other	1000	μ <b>F</b> .							
	Impedance ratio max									1				
			_											
			_											
Low Temperature Characteristics	6.3 to 100 VDC  0.1 to 22000 μF  ±20% (120Hz, +20°C)  I ≦ 0.01 CV or 3 (μA)  After 1 minute whichever is greater measured with rated working voltage applied.  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 > 1000 φ F, add 2% per another 1000 μ F.  Impedance ratio max  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 2													
(at 120Hz)	Working Voltage(VDC)	160	200	250	350	400	450							
	Z-25°C ∕ Z+20°C	2	2	3	5	6	6							
	For Capacitance > 1000 µ	٠.		•			•							
Load Life	Duration time :200 Ambient temperature :+10 Applied voltage :Rat After test requirement at +20°0 Capacitance change :≦ Dissipation factor :≤≤	05°C ted DC : ±20% 200%	of the	initial nitial s	measu pecifie									
Shelf Life	Duration time :100 Ambient temperature :+10 Applied voltage :Noi After test requirement at +20°0	05°C ne ∷Same				er appl	ication	of DC	workir	ng voltage for 30 minutes.				

## Multiplier for Ripple Current vs. Frequency

CAP( μ F) \ Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
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

#### Diagram of Dimensions:(unit:mm)



Dφ	5	6.3	8	3	10	13	16	18	22
F	2.0	2.5	3	.5	5.0	5.0	7.5	7.5	10
dф	0.	.5	L<20 0.5	L≧20 0.6	0	.6		0.8	

	D<18	D=	D>18	
α	D < 10	L<35.5	L≧35.5	D / 10
	1.5	1.5	2.0	2.0



# Case Size

φ DxL(mm)

WV (SV)	6.3 10		•	4	0		<b>-</b>	35		
(01)						6	2		(44)	
	3)	·	(1		`	0)	(3	<u> </u>		· ·
Cap(μF)	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7							5X11	26	5X11	28
6.8							5X11	32	5X11	36
10					5X11	35	5X11	38	5X11	46
22			5X11	45	5X11	54	5X11	58	5X11	61
33	5X11	54	5X11	60	5X11	64	5X11	69	5X11	75
47	5X11	65	5X11	70	5X11	100	5X11	105	5X11	110
68	5X11	75	5X11	80	5X11	105	6.3X11	120	6.3X11	140
100	5X11	96	5X11	105	5X11	115	6.3X11	145	6.3X11	160
	-14.		->		6.3X11	130			8X11.5	175
120	5X11	110	5X11	110	6.3X11	155	6.3X11	175	8X11.5	185
	-14.		6.3X11	120						
150	5X11	120	5X11	120	6.3X11	170	6.3X11	180	8X11.5	215
	6.3X11	130	6.3X11	145			8X11.5	200		
180	6.3X11	140	6.3X11	160	6.3X11	190	8X11.5	210	8X11.5	225
	0.01/44		2 27///		0.01///		27/// -		10X12.5	265
220	6.3X11	160	6.3X11	175	6.3X11	215	8X11.5	235	8X11.5	255
	0.01/44		2 27///		0.01///		27/// =		10X12.5	300
330	6.3X11	195	6.3X11	205	6.3X11	225	8X11.5	310	10X12.5	400
	0.01/44		8X11.5	255	8X11.5	265	10X12.5	335	10)/10	
470 560	6.3X11	220	6.3X11	235	8X11.5	370	8X11.5	410	10X16	520
	8X11.5	270	8X11.5	290	8X16	400	10X12.5	440		
560	8X11.5	310	8X11.5	330			10X16	460	10X20	540
			10X12.5	340	10X12.5	410			10)/00	
680	8X11.5	360	8X11.5	365	8X16	470	10)/10		10X20	560
			8X16	410	10X12.5	480	10X16	520	13X20	650
820	8X11.5	390	10X12.5	480	10X16	550	10X20	640	13X20	760
1000	10X12.5	430	10X12.5	520	10X12.5	540	10X20	710	13X20	830
	40)/40.5		10)/10	200	10X16	600	40)/00	0.1.0	40)/00	222
1200	10X12.5	550	10X16	630	10X20	700	13X20	810	13X20	900
	407/40	005	01/00	74.5	40)/00	000	40)/00	000	13X25	930
1500	10X16	625	8X20 10X16	715	10X20	820	13X20	900	13X25	960
4000	40740	740		770	40.700	000	40.00	4050	40705	4450
1800	10X16	710	10X20	820	13X20	920	13X25	1050	16X25 16X25	1150
2200	10X16 10X20	750 775	10X20	860	13X20	1000	13X25	1200	16X25 16X31.5	1290 1350
	10X20 10X20	850	10X25	880	13X20	1080	16X25	1320		1480
2700	10/20	იას	10X25 13X20	920	13/20	1000	10/25	1320	16X31.5	1400
3300	13X20	960	13X20 13X20	1100	13X25	1200	16X25	1460	16X35.5	1650
3900	13X20 13X20	1000	13X20 13X20	1280	16X25	1490	16X31.5	1670	18X31.5	1820
4700	13X20 13X20	1150	13X25	1350	16X25	1600	16X35.5	1780	18X35.5	1900
5600	13X25	1300	16X25	1490	16X31.5	1720	16X35.5	1890	18X35.5	2000
6800	13X25 13X25	1480	16X25	1670	16X31.5	1900	18X35.5	2050	10/30.0	2000
8200	16X25	1520	16X31.5	1840	16X31.5	2020	18X35.5	2090		
10000	16X25	1680	16X35.5	1900	18X35.5	2020	10/30.0	2090		
12000	16X31.5	1750	16X35.5	2050	18X35.5	2150				
15000	16X35.5	2075	18X35.5	2180	10/33.3	2100				
18000	18X31.5	2150	18X35.5	2205						
			10/30.0	2200						
22000	18X41	2300								

Ripple Current ( mA, rms ) at 105  $^{\circ}\text{C}$  120Hz



φ DxL(mm)

										φ DxL(mm)	
WV (SV)	5	0	6	3	10	00	16	80	200		
	(6		(7)		(12		(20				
ContuE	,		`	<u> </u>					`		
Cap(μF)	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
0.1	5X11	1.3	5X11	1.3	5X11	1.9					
0.22	5X11 5X11	2.9	5X11 5X11	2.9	5X11 5X11	3.4					
0.33		4		4.5		5 10	5X11	44	EV11	40	
0.47	5X11	7	5X11	7	5X11			11		12	
1	5X11	13	5X11	13	5X11	15	5X11	17	6.3811	17	
0.0	EV44	20	EV44	20	EV44	04	6.3X11	19	0.0744	25	
2.2	5X11 5X11	20 26	5X11 5X11	20 28	5X11 5X11	21 30	6.3X11 6.3X11	25 32		25 33	
3.3	2711	20	2711	20	2711	30	0.3/11	32			
	5X11	32	5X11	32	5X11	35	0.0744	38		35 42	
4.7	2711	32	2711	32	2711	33	6.3X11 8X11.5	<u> </u>		50	
	EV44	40	EV44	40	C 0 V 4 4	47					
6.8	5X11	40	5X11	40	6.3X11	47	8X11.5	56		60	
	EV44	40	EV44	40	0.07/44	50	07/44 5			63	
10	5X11	48	5X11	42	6.3X11	56	8X11.5	63		78	
	EV44	00	6.3X11	48	8X11.5	60	10X12.5	75		85	
00	5X11	60	6.3X11	82	6.3X11	75	10X12.5	95	10216	125	
22	0.0744	70			0744.5	00	10X16	105	407/00	400	
	6.3X11	70	0.07/44	400	8X11.5	90	10X20	120		130	
	5X11	75	6.3X11	100	8X11.5	140	10X16	155		160	
33	2 2)///				101/10 =		10)/00		5X11 6.3X11 6.3X11 6.3X11 8X11.5 6.3X11 8X11.5 10X12.5 8X11.5 10X12.5 10X16 10X20 10X16 10X20 13X20 13X20 13X20 13X25 16X25 16X25 16X25 16X31.5 16X35.5 16X35.5 16X35.5 18X31.5 18X31.5 18X41 18X41 22X41 18X51	180	
	6.3X11	90	2 27/11		10X12.5	155	10X20	170		190	
47	6.3X11	115	6.3X11	125	8X16	165	10X20	180	13X20	220	
	0.01/44	400	8X11.5	140	10X12.5	170	13X20	210	10)/00	070	
68	6.3X11	130	8X11.5	155	10X16	240	13X20	260		270	
68	8X11.5	155	10X12.5	185	101/00		13X25	280		300	
100	8X11.5	200	10X12.5	230	10X20	280	13X25	310		320	
	- > 4				> 4		16X25	330		345	
120	8X16	220	10X16	255	10X20	295	13X25	320		360	
	10X12.5	225			> 4		16X25	350		390	
150	10X12.5	245	10X16	270	13X20	340	16X25	470		440	
			10)(10		13X25	360	10)/0-			480	
180	10X12.5	260	10X16	310	13X20	410	16X25	550		550	
	10X16	280			13X25	480				560	
220	10X12.5	345	10X16	375	13X25	520	16X31.5	560		670	
	10X16	360	10X20	400	407/02	000	16X35.5	580		690	
330	10X16	450	13X20	580	16X25	690	18X31.5	660		750	
	10X20	470	40)/00	000	40\/05	000	18X35.5	700		810	
470	10X20	600	13X20	690	16X25	820	18X35.5	810		840	
500	13X20	650	40)/05	770	16X31.5	860	18X41	860		925	
560	13X20	660	13X25	770	16X35.5	900			18X51	940	
680	13X20	700	16X25	880	16X35.5	920					
	13X25	770	40)/05	000	18X31.5	950					
820	13X25	850	16X25	920	18X35.5	1020					
1000	13X25	890	16X31.5	1185	18X41	1200					
	16X25	1000	400055	4000	1						
1200	16X25	1150	16X35.5	1200							
1500	16X31.5	1300	18X31.5	1350	1						
1800	16X35.5	1480			1						
2200	16X35.5	1530			1						
2700	18X35.5	1590			1						
3300	18X35.5	1750			1						

Ripple Current ( mA, rms ) at 105  $^{\circ}\text{C}$  120Hz



φ DxL(mm)

WV (SV)		250 350 (300) (400)			40		42 (47		450 (500)		
Cap(µF)	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	
0.47	5X11	8	6.3X11	13	6.3X11	14	6.3X11	14	6.3X11	14	
1	6.3X11	16	6.3X11	16	6.3X11	17	8X11.5	20	8X11.5	20	
0.0	6.3X11	20	8X11.5	31	6.3X15	34	8X11.5			35	
2.2	8X11.5	25			8X11.5	35					
	8X11.5	33	8X11.5	34	6.3X15	35	10X12.5	42	8X11.5	32	
3.3					8X11.5	36			10X12.5	38	
			10X12.5	38	10X12.5	41			20         8X11.5           35         10X12.5           42         8X11.5           10X12.5         10X16           58         8X16           61         10X12.5           10X16         10X16           84         10X16           10X20         112           112         13X20           13X20         13X20           185         16X25           230         310         16X31.5           16X35.5         18X25           390         16X31.5           16X35.5         18X25           470         16X35.5           18X31.5         18X35.5           500         18X31.5           18X35.5         18X35.5	42	
	8X11.5	46	8X11.5	47	8X11.5	48	10X12.5	58		44	
4.7					10X12.5	55					
4.7	10X12.5	50	10X12.5	52	10X16	65	10X16	61		45	
									\$\size 6.3\times 1.5\$ \$\size 6.3\times 1.5\$ \$\sum 10\times 12.5\$ \$\sum 1	50	
	8X11.5	60	10X12.5	79	8X14	75	10X16	84	10X16	65	
6.8	10X12.5	70			8X16	80			10X20	72	
					10X16	90					
10	8X11.5	68	10X16	87	10X16	110	10X20			92	
10	10X12.5	80	10X20	92	10X20	125	10X20	112		98	
	10X16	110	13X20	160	13X20	170			13X20	165	
22	10X20	125									
	13X20	150	13X25	170	13X25	190	13X25	185		180	
33	13X20	190	13X20	180	13X20	235			16X25	210	
- 00			13X25	200	13X25	260	16X25				
	13X20	230	16X25	245	16X25	300	16X31.5	310		340	
47	13X25	240	16X31.5	260	16X31.5	360				380	
									18X25	350	
	13X20	255	16X25	330	16X25	360	16X35.5	390		370	
56	13X25	280			16X31.5	400			16X35.5	400	
										370	
	13X25	310	16X31.5	370	18X25	440	18X31.5	470		450	
68	4.03/0.=				16X35.5	480				460	
	16X25	355	10)/0==		18X31.5	500	101/0			470	
82	16X25	370	16X35.5	385	18X25	470	18X35.5	500		465	
	40705	275	40704.5	200	18X31.5	520	40705.5			480	
100	16X25	375	18X31.5	390	18X31.5	530	18X35.5	555		525	
	16X31.5	395	16V44	400	18X35.5	550 550				560	
100	16X31.5	420	16X41	400	18X31.5 18X35.5	550				580 650	
120	16V2F F	420	10V2F F	400	18X35.5 18X35.5	580 580	10744	620	22841	UCO	
	16X35.5 16X35.5	430 460	18X35.5 18X41	400 420	18X35.5 18X35.5	610	18X41 18X41	630 660	10715	690	
150	18X31.5	460	10/41	420	18X35.5	650	10/41	000	10/40	บษบ	
	18X31.5 18X31.5	465	18X41	430	18X41 18X45	700	18X45	680			
180	18X35.5	465	10/41	430	10/40	700	10/40	000			
	18X35.5 18X35.5	650	22X41	500							
220	18X41	700	22/41	500			+		8X11.5 10X12.5 10X16 8X16  10X12.5 10X16 8X16  10X12.5 10X16 10X16 10X10 10X20 13X20 13X20 13X20 13X20 13X20 13X25 16X35.5 18X25 16X31.5 16X35.5 18X25 18X35.5		
	18X45	700							\$\size 6.3X11 8X11.5 10X12.5 10X12.5 10X16 8X16 10X12.5 10X16 10X12.5 10X16 10X20 13X20 13X20 13X20 13X25 16X25 16X35.5 18X35.5 18X35.		
330	22X41	780									
	22/\ <del>4</del> I	700							\$\size\$ 6.3X11 8X11.5 10X12.5 10X12.5 10X12.5 10X16 8X16  10X12.5 10X16 10X16 10X20 13X20 13X20 13X20 13X20 13X25 16X25 16X35.5 18X35.5 18X35.5 18X31.5 18X35.5 18X35.5 18X35.5 18X41 18X41 22X41		

Ripple Current ( mA, rms ) at 105  $^{\circ}\text{C}$  120Hz