

此商品编号对应的规格参数是: 22uF 450V 16\*22

此商品的实物图片为:



## KM Series

+105°C, General (普通品)

### FEATURES

1. 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.
2. This series is for communication equipments, switching power supply, industrial measuring instruments, automotive electric products, etc.



### SPECIFICATIONS

Item	Performance Characteristics	
Operating Temperature Range	-40 to +105°C	-25 to +105°C
Rated Working Voltage Range	6.3 to 100V	160 to 450V
Nominal Capacitance Range	0.1 to 33000µF	
Capacitance Tolerance	±20% (120Hz, +20°C)	
Leakage Current	$I \leq 0.01CV$ or $3(\mu A)$ whichever is greater	$I \leq 0.03CV + 40(\mu A)$
	after 2 minutes application of rated working voltage at +20°C	
tan δ (120Hz, +20°C)	Working Voltage (V)	6.3    10    16    25    35    50    63    100
	tan δ (max.)	0.26   0.22   0.18   0.16   0.14   0.12   0.10   0.08
	Working Voltage (V)	160    200    250    250    350    400    420    450
	tan δ (max.)	0.20   0.20   0.20   0.20   0.24   0.24   0.24   0.24
	For capacitance value > 1000µF, add 0.02 per another 1000µF	
Low Temperature Characteristics	Impedance ratio max. at 120Hz	
	Working Voltage (V)	6.3    10    16    25    35    50    63    100
	Z-25°C / Z+20°C	5    4    3    2    2    2    2    2
	Z-40°C / Z+20°C	10    8    6    4    3    3    3    3
	Working Voltage (V)	160    200    220    250    350    400    420    450
	Z-25°C / Z+20°C	3    3    3    4    4    6    6    15
	For capacitance value > 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	
High Temperature Loading	Test conditions	
	Duration : $\phi D \leq 6.3 \geq 8$ Load life 1000h 2000h	Post test requirements at +20°C Leakage current : ≤ Initial specified value Cap. change : within ±20% of initial measured value tan δ : ≤ 200% of initial specified value
	Ambient temp. : +105°C Applied voltage : DC voltage with maximum permissible ripple current specified at +105°C (Sum of the DC voltage and super-imposed peak AC voltage for maximum permissible ripple current should be equal to rated DC working voltage).	
Shelf Life	Test conditions	
	Duration : 1000 hours Ambient temp. : +105°C Applied voltage : (None)	Post test requirements at +20°C Same limits for high temperature loading.
Others	JIS C - 5101 ( IES 60384 )	

### CASE SIZE TABLE



φD	5	6.3	8	10	12.5	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0
φd	0.5			0.6		0.8			
α	(L < 20) 1.5					(L ≥ 20) 2.0			
β	(D < 20) 0.5					(D ≥ 20) 1.0			

## KM Series

+105°C, General (普通品)

### STANDARD RATINGS

Voltage (Code)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)	
Cap.( $\mu$ F)	Code	Case Size	Ripple Current						
0.1	104								
0.15	154								
0.22	224								
0.33	334								
0.47	474								
1	105								
2.2	225								
3.3	335								
4.7	475							5 x 11	26
10	106					5 x 11	35	5 x 11	38
22	226			5 x 11	49	5 x 11	54	5 x 11	57
33	336	5 x 11	54	5 x 11	60	5 x 11	65	5 x 11	75
47	476	5 x 11	65	5 x 11	70	5 x 11	80	5 x 11	84
68	686	5 x 11	70	5 x 11	75	5 x 11	90	5 x 11	92
100	107	5 x 11	95	5 x 11	105	5 x 11	125	6.3 x 11	159
220	227	5 x 11	153	5 x 11	170	6.3 x 11	213	8 x 12	285
330	337	6.3 x 11	216	6.3 x 11	239	8 x 12	315	8 x 12	340
470	477	6.3 x 11	258	6.3 x 11	285	8 x 12	366	10 x 12.5	471
680	687	8 x 12	365	8 x 12	408	10 x 12.5	480	10 x 16	620
1000	108	8 x 12	443	10 x 12.5	571	10 x 16	680	10 x 20	821
2200	228	10 x 16	740	10 x 20	886	12.5 x 20	1108	12.5 x 20	1176
3300	338	10 x 20	1032	12.5 x 20	1205	12.5 x 25	1389	16 x 25	1646
4700	478	12.5 x 20	1280	12.5 x 25	1492	16 x 25	1740	16 x 30	2012
6800	688	12.5 x 25	1554	16 x 25	1824	16 x 30	2081	16 x 35	2308
10000	109	16 x 25	1897	16 x 30	1980	16 x 35	2379	18 x 35	2500
15000	159	16 x 30	2188	16 x 40	2180	18 x 35	2600		
22000	229	18 x 35	2400	18 x 40	2407				
33000	339	18 x 40	2555						

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size  $\phi$ D x L(mm)

Voltage (Code)		35V (1V)		50V (1H)		63V (1J)		100V (2A)	
Cap.( $\mu$ F)	Code	Case Size	Ripple Current						
0.1	104			5 x 11	1				
0.15	154			5 x 11	1.5				
0.22	224			5 x 11	3				
0.33	334			5 x 11	4				
0.47	474			5 x 11	7			5 x 11	10
1	105			5 x 11	13			5 x 11	16
2.2	225			5 x 11	20			5 x 11	23
3.3	335			5 x 11	30			5 x 11	34
4.7	475	5 x 11	28	5 x 11	37	5 x 11	40	5 x 11	40
10	106	5 x 11	41	5 x 11	54	5 x 11	59	6.3 x 11	61
22	226	5 x 11	67	5 x 11	79	5 x 11	79	6.3 x 11	92
33	336	5 x 11	80	5 x 11	101	6.3 x 11	122	8 x 12	144
47	476	5 x 11	101	6.3 x 11	133	6.3 x 11	146	10 x 12.5	199
68	686					8 x 12	155	10 x 16	240
100	107	6.3 x 11	168	8 x 12	229	10 x 12.5	251	10 x 20	349
220	227	8 x 12	294	10 x 16	509	10 x 20	504	12.5 x 25	622
330	337	10 x 12.5	419	10 x 16	589	12.5 x 20	688	12.5 x 25	800
470	477	10 x 16	547	10 x 20	707	12.5 x 20	810	16 x 25	990
680	687	10 x 20	682	12.5 x 20	923	12.5 x 25	1160	16 x 30	1289
1000	108	12.5 x 20	1023	12.5 x 25	1287	16 x 25	1448	18 x 35	2020
2200	228	16 x 25	1497	16 x 35	1884	18 x 35	1781		
3300	338	16 x 30	1808	18 x 35	2167				
4700	478	18 x 35	2335						
6800	688	18 x 40	2400						

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size  $\phi$ D x L(mm)

## KM Series

+105°C, General (普通品)

### STANDARD RATINGS

Voltage (Code)		160V (2C)		200V (2D)		220V (2N)		250V (2E)	
Cap.( $\mu$ F)	Code	Case Size	Ripple Current						
0.47	474							6.3 x 11	8
1	105							6.3 x 11	17
2.2	225							6.3 x 11	27
3.3	335			6.3 x 11	30	6.3 x 11	30	6.3 x 11	35
4.7	475	6.3 x 11	41	6.3 x 11	40	8 x 12	40	8 x 12	45
10	106	8 x 12	60	10 x 12.5	72	10 x 12.5	70	10 x 12.5	75
22	226	10 x 16	110	10 x 16	113	10 x 20	125	10 x 20	130
33	336	10 x 20	156	10 x 20	165	12.5 x 20	165	12.5 x 20	184
47	476	10 x 20	195	10 x 20	194	12.5 x 20	220	12.5 x 25	238
68	686	12.5 x 20	250	12.5 x 25	250	12.5 x 25	245	16 x 20	246
82	826	12.5 x 25	310	10 x 30	320	12.5 x 30	280	16 x 25	351
100	107	12.5 x 25	360	16 x 25	386	16 x 25	335	16 x 25	390
150	157	12.5 x 30	380	16 x 25	525	16 x 30	365	16 x 30	440
180	187	12.5 x 35	420	12.5 x 35	560	16 x 35	500	16 x 35	469
220	227	16 x 30	680	16 x 30	643	16 x 40	615	16 x 35	485
270	277	16 x 30	728	18 x 30	740				
330	337	18 x 35	830	18x 30	808				
390	397	18 x 35	850	18 x 35	904				
470	477	18 x 40	880	18 x 40	1016				
560	567	18 x 45	925	18 x 45	1112				

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size  $\phi$ D x L(mm)

Voltage (Code)		350V (2V)		400V (2G)		420V (2M)		450V (2W)	
Cap.( $\mu$ F)	Code	Case Size	Ripple Current						
0.47	474	6.3 x 11	8						
1	105	6.3 x 11	18	6.3 x 11	19	6.3 x 11	15	6.3 x 11	16
2.2	225	6.3 x 11	25	8 x 12	30	8 x 12	29	8 x 12	24
3.3	335	8 x 12	40	8 x 12	35	8 x 12	35	8 x 12	29
4.7	475	8 x 12	43	8 x 12	40	10 x 16	52	10 x 16	42
10	106	10 x 16	73	10 x 16	78	10 x 20	85	12.5 x 25	84
18	186	12.5 x 20	100	12.5 x 20	105	12.5 x 25	124	10 x 30	108
22	226	12.5 x 20	150	12.5 x 20	148	12.5 x 25	140	12.5 x 25	131
27	276	12.5 x 25	177	10 x 30	192	12.5 x 25	170	12.5 x 30	164
33	386	12.5 x 25	200	12.5 x 25	193	16 x 25	200	16 x 25	237
39	396	12.5 x 25	258	16 x 25	251	12.5 x 30	248	12.5 x 35	256
47	476	12.5 x 25	265	12.5 x 30	266	12.5 x 35	288	16 x 30	305
56	566	16 x 30	280	12.5 x 35	336	12.5 x 40	344	16 x 30	352
68	686	16 x 30	288	16 x 30	396	16 x 30	408	18 x 30	366
82	826	18 x 30	372	18 x 30	443	16 x 35	456	18 x 30	440
100	107	18 x 35	460	18 x 30	489	18 x 35	488	18 x 35	490
120	127			18 x 35	570	18 x 40	528	18 x 40	592
150	157			18 x 40	616	18 x 45	568	18 x 45	640
180	187			18 x 50	704				

Maximum Allowable Ripple Current (mA rms) at 105°C 120Hz

Case Size  $\phi$ D x L(mm)

### RIPPLE CURRENT MULTIPLIER

Frequency Coefficient							
Rated Voltage(V)	Cap.( $\mu$ F)	Coefficient	50	120	300	1k	10k~
6.3 ~ 100	~ 47	0.75	1.00	1.35	1.57	2.00	
	68 ~ 470	0.80	1.00	1.23	1.34	1.50	
	$\geq$ 560	0.85	1.00	1.10	1.13	1.15	
160 ~ 450	0.47 ~ 220	0.80	1.00	1.25	1.40	1.60	
	$\geq$ 270	0.90	1.00	1.10	1.13	1.15	