Leaded Aluminium Electrolytic Capacitors



Feature:

- 105°C high-temperature resistance, standard product, for general purposes.

Specifications:

<table>
<tr><th>Items</th><th colspan="12">Characteristics</th></tr>
<tr><td>Capacitance Tolerance</td><td colspan="12">± 20% (120Hz, 20°C)</td></tr>
<tr><td>Operating Temperature Range</td><td colspan="6">-40°C to +105°C</td><td colspan="3">-40°C to +105°C</td><td colspan="3">-25°C to +105°C</td></tr>
<tr><td>Rated Voltage Range</td><td colspan="6">6.3~100V</td><td colspan="3">160~250V</td><td colspan="3">350~450V</td></tr>
<tr><td>Leakage Current</td><td colspan="6">I ≦ 0.01CV or 3 (μA), Which is greater.
(After 2 minutes application of working voltage)</td><td colspan="6">I ≦ 0.03CV +20 (μA), (After 3 minutes application of working voltage)</td></tr>
<tr><td>Dissipation Factor (tan δ)</td><td colspan="12"><table>
<tr><td colspan="12">Measurement Frequency: 120Hz. Temperature: 20°C</td></tr>
<tr><td>Rated Voltage(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td><td>160~250</td><td>350~450</td></tr>
<tr><td>tan δ(Max)</td><td>0.24</td><td>0.2</td><td>0.16</td><td>0.15</td><td>0.12</td><td>0.1</td><td>0.09</td><td>0.08</td><td>0.08</td><td>0.2</td><td>0.25</td></tr>
<tr><td colspan="12">When nominal capacitance exceeds 1000μF, add 0.02 to the value above for each 1000μF increase. 20°C 120Hz</td></tr>
</table></td></tr>
<tr><td>Low Temperature Stability Impedance Ratio(Max)</td><td colspan="12"><table>
<tr><td colspan="10">Measurement Frequency:120Hz.</td></tr>
<tr><td>Rated Voltage(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50~100</td><td>160~250</td><td>350~400</td><td>450</td></tr>
<tr><td>Z(-25°C) /Z(20°C)</td><td>5</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>3</td><td>6</td><td>15</td></tr>
<tr><td>Z(-40°C) /Z(20°C)</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>4</td><td>-</td><td>-</td></tr>
</table></td></tr>
<tr><td>Load Life</td><td colspan="12"><table>
<tr><td colspan="2">2000 hours,with application of working voltage at 105°C</td></tr>
<tr><td>Capacitance Change</td><td>Within ±25% of Initial Value</td></tr>
<tr><td>tan δ</td><td>200% or less of Initial Specified Value</td></tr>
<tr><td>Leakage Current</td><td>Initial Specified Value or less</td></tr>
</table></td></tr>
<tr><td>Shelf Life</td><td colspan="12"><table>
<tr><td colspan="2">2000 hours, no voltage applied, at 105°C. After Test : UR to be applied for 30 minutes, 24 to 48 hours before measurement.</td></tr>
<tr><td>Capacitance Change</td><td>Within ±20% of Initial Value</td></tr>
<tr><td>tan δ</td><td>200% or less of Initial Specified Value</td></tr>
<tr><td>Leakage Current</td><td>Initial Specified Value or less</td></tr>
</table></td></tr>
<tr><td>Standards</td><td colspan="12">JIS C 5141 and JIS C 5102</td></tr>
</table>

Permissible Ripple Current

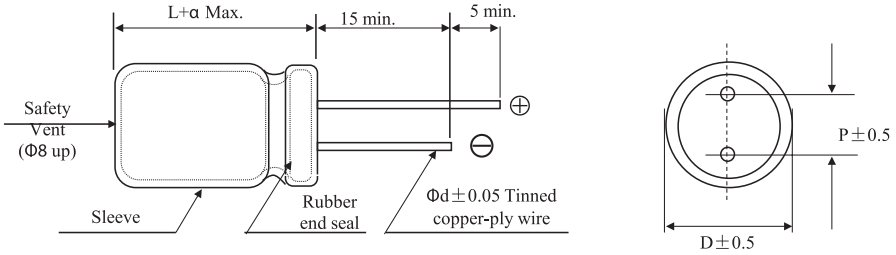
TEMP. (°C)	60	70	85	105
Coefficient	1.85	1.65	1.4	1

Frequency Coefficient

WV (V)	Capacitance (μF)	Frequency (Hz)			
		50	120	1K	≧10K
≦100	<100	0.75	1	1.57	2
	100~470	0.8	1	1.34	1.5
	>470	0.85	1	1.1	1.15
≧160	0.47~470	0.85	1	1.4	1.5

MCKSK Series

Dimensions: (mm)



ΦD	5	6.3	8	10	13	16	18	22	25
P	2	2.5	3.5	5	5	7.5	7.5	10	12.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.8	1

α	(L<16) 1 L≧16) 2

Standard Ratings

D×L(mm) ; R.C.(mA rms) at 105°C, 120Hz

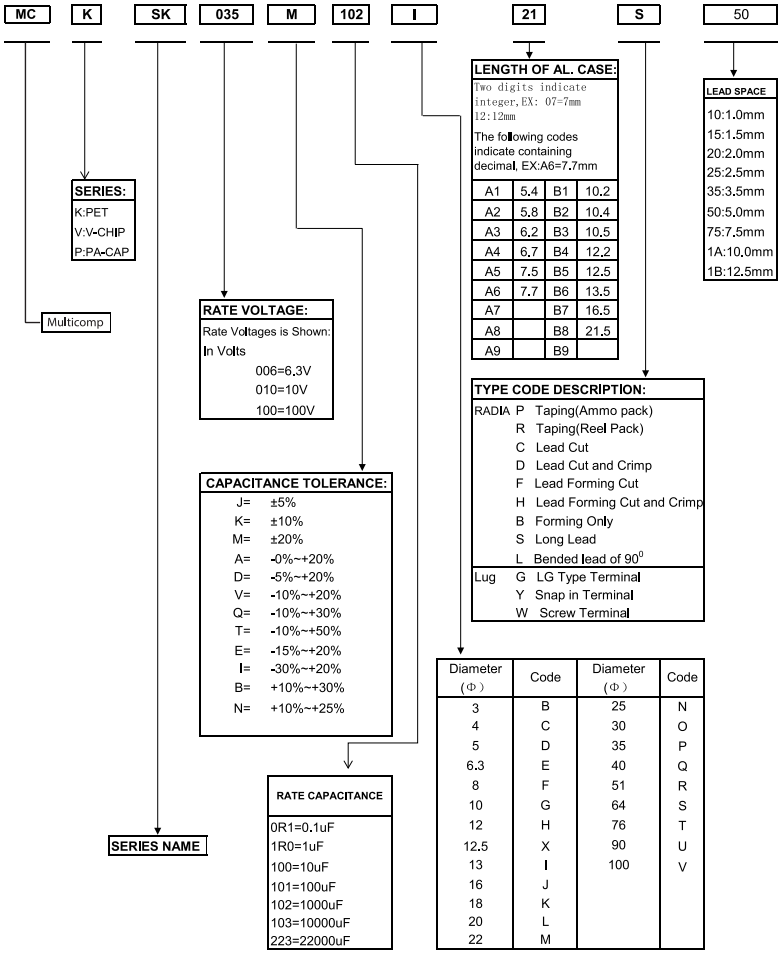
Cap (μF)	WV(V) (Code)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
0.1~0.47												5×11	9.9	5×11	5
1.0												5×11	14	5×11	15
2.2												5×11	22	5×11	23
3.3												5×11	27	5×11	28
4.7								5×11	27	5×11	28	5×11	33	5×11	34
6.8								5×11	32	5×11	34	5×11	42	5×11	46
10				5×11	36	5×11	38	5×11	39	5×11	43	5×11	49	5×11	53
22		5×11	49	5×11	49	5×11	59	5×11	57	5×11	68	5×11	75	6.3×12	99
33		5×11	60	5×11	64	5×11	72	5×11	75	5×11	83	6.3×12	97	8×12	110
47		5×11	71	5×11	72	5×11	85	5×11	88	6.3×12	105	6.3×12	132	6.3×12	148
56		5×11	82	5×11	86	5×11	95	5×11	99	6.3×12	115	6.3×12	137	8×12	156
68		5×11	93	5×11	98	5×11	132	5×11	137	6.3×12	154	6.3×12	178	8×12	187
100		5×11	101	5×11	115	5×11	137	6.3×12	148	6.3×12	176	8×12	220	10×13	231

Cap (µF)	WV(V) (Code)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
220		6.3×12	159	6.3×12	193	6.3×12	215	8×12	264	10×13	302	10×16	330	10×20	396
330		6.3×12	212	6.3×12	225	8×12	292	8×12	335	10×16	440	10×20	467	13×21	605
470		6.3×12	242	8×12	247	8×12	346	8×14	396	10×20	528	10×20	693	13×25	770
								10×13	418						
560		8×12	247	8×12	253	8×14	352	10×16	407	10×20	572	13×21	704	13×25	792
680		8×12	253	8×12	264	8×14	385	10×20	528	10×20	638	13×25	726	16×26	913
1000		8×14	440	8×12	484	10×20	561	10×17	550	13×21	908	13×25	990	16×32	1100
1200		8×14	460	10×17	510	10×20	550								
1500		8×20	495	10×20	539	10×20	583	13×21	715	13×25	946	16×32	1320	18×32	1562
2200		10×20	704	10×20	759	10×28	913	13×26	1029	16×26	1221	16×36	1463	18×35	1815
3300		10×20	825	13×21	902	13*25	1111	16×26	1298	16×36	1573	18×35	1815	22×40	2134
4700		13×26	1056	13×25	1188	16×26	1331	16×32	1562	18×35	1870	22×40	2310	22×50	2695
6800		16×26	1259	16×26	1463	16×36	1694	18×35	2002	22×40	2365	22×50	2750		
10000		16×26	1573	16×36	1848	18×35	2123	22×40	2354	22×50	2915				
15000		16×36	2013	18×35	2321	22×40	2662	22×50	3025						
22000		18×40	2519	22×40	2904	22×50	3300								

Cap (uF)	WV(V) (Code)	100 (2A)		160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
0.1		5×11	1.6												
0.22		5×11	3.7												
0.33		5×11	5.5												
0.47		5×11	12	6.3×12	11	6.3×12	11	6.3×12	13	8×12	12	8×12	13	10×13	13
1.0		5×11	18	6.3×12	15	6.3×12	17	6.3×12	17	8×12	17	6.3×12	17	10×13	20
2.2		5×11	27	6.3×12	24	8×12	25	8×12	31	8×12	27	8×12	33	10×20	35
3.3		5×11	33	8×12	33	8×12	38	8×12	44	10×13	35	10×13	42	13×21	50
4.7		5×11	40	6.3×12	44	8×12	46	10×13	55	10×13	42	8×12	55	10×20	44
6.8		5×11	41	8×12	46	8×12	55	10×13	64	10×13	69	8×14	75	13×21	79
10		6.3×12	68	10×13	55	8×12	66	10×16	77	10×20	88	10×16	88	13×25	86
22		8×12	102	10×16	110	10×20	148	13×21	143	13×25	137	13×21	137	16×26	144
33		8×12	121	10×20	132	13×21	159	13×21	165	16×26	160	13×25	187	16×32	192
47		10×16	170	13×21	176	13×25	220	13×25	225	16×26	231	16×26	231	18×32	308
680		10×16	216	22×40	204	13×25	230	16×26	247	16×32	236	16×32	236	18×35	462
82		10×16	238	13×25	242	13×25	253	16×26	273	16×32	258	18×32	385	18×35	517
100		10×20	286	16×26	330	16×26	291	16×32	357	18×32	298	18×35	440	18×36	550
120		10×25	352	16×26	330	16×26	330	16×32	418	18×35	315	18×40	495	18×45	605

Cap (uF)	WV(V) (Code)	100 (2A)		160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
150		13×21	412	16×26	363	16×32	404	18×32	495	18×40	352	22×40	550		
220		13×25	528	16×36	473	18×32	583	22×35	770						
330		16×26	649	18×35	660	22×30	682								
470		16×32	880	18×40	797	22×40	913								
1000		18×35	1430	22×50	1083	25×50	1441								
2200		18×40	1815												

Explanation of parts numbers



Diameter (Φ)	Code	Diameter (Φ)	Code
3	B	25	N
4	C	30	O
5	D	35	P
6.3	E	40	Q
8	F	51	R
10	G	64	S
12	H	76	T
12.5	X	90	U
13	I	100	V
16	J		
18	K		
20	L		
22	M		

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