

# Leaded Aluminium Electrolytic Capacitors **multicomp** PRO

**RoHS  
Compliant**



## Feature

- 105°C 2000 hours, standard product

## Specifications

Items	Characteristics											
Capacitance Tolerance	± 20% (120Hz, 20°C)											
Operating Temperature Range	-40°C to +105°C						-40°C to +105°C			-25°C to +105°C		
Rated Voltage Range	6.3~100V DC						160~250V DC			350~450V DC		
Leakage Current	I ≤ 0.01CV or 3 (µA), Which is greater. (After 2 minutes application of working voltage)						I ≤ 0.03CV + 20 (µA), (After 3 minutes application of working voltage, at 20°C)					
Dissipation Factor (tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C											
	Rated Voltage(V)	6.3	10	16	25	35	50	63	80	100	160~250	350~450
	tan δ(Max)	0.24	0.2	0.16	0.15	0.12	0.1	0.09	0.08	0.08	0.2	0.25
	When nominal capacitance over 1000µF, tanδ shall be added 0.02 to the listed value with increase of every 1000µF											
Low Temperature Stability Impedance Ratio(Max)	Measurement Frequency:120Hz.											
	Rated Voltage(V)	6.3	10	16	25	35	50~100	160~250	350~400	450		
	Z(-25°C) / Z(20°C)	5	4	3	2	2	2	3	6	15		
	Z(-40°C) / Z(20°C)	10	8	6	4	3	3	4	-	-		
Load Life	2000 hours,with application of working voltage at 105°C											
	Capacitance Change	Within ±25% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.											
	Capacitance Change	Within ±20% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Standards	JIS C 5141 and JIS C 5102											

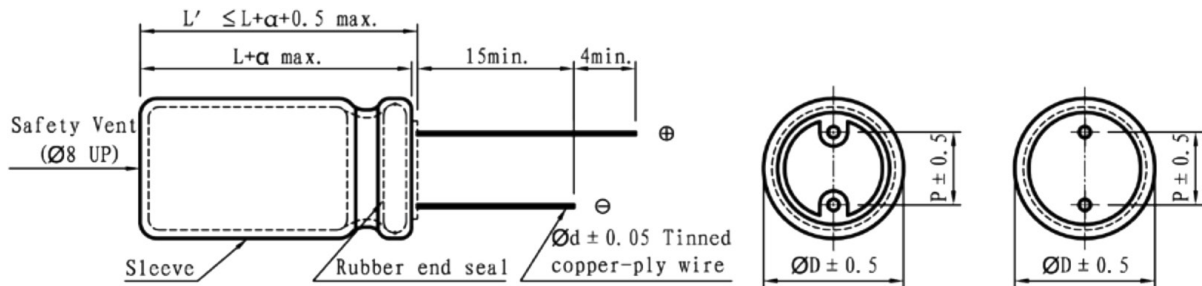
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## Frequency Coefficient of Permissible Ripple Current

Rated Voltage (V)	Capacitance (µF)	Frequency (Hz)			
		50	120	1K	≤20K
≤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

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

## Dimensions: (mm)



ΦD	5	6.3	8	10	13	14.5	16	18	22	25
P	2	2.5	3.5	5	5	7.5	7.5	7.5	10	12.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.8	0.8	1.0

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)	100 (2A)		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
0.1~0.47												5×11	9.9	5×11	5
1												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	6.3×11	99
33		5×11	60	5×11	64	5×11	72	5×11	75	5×11	83	6.3×11	97	8×12	110
47		5×11	71	5×11	72	5×11	85	5×11	88	6.3×11	105	6.3×12	132	6.3×11	148
56		5×11	82	5×11	86	5×11	95	5×11	99	6.3×11	115	6.3×11	137	8×12	156
68		5×11	93	5×11	98	5×11	132	5×11	137	6.3×11	154	6.3×11	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

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Cap (µF)	WV(V) (Code)	100 (2A)		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		6.3×11	159	6.3×11	193	6.3×12	215	8×12	264	10×13	302	10×16	330	10×20	396
330		6.3×11	212	6.3×11	225	8×12	292	8×12	335	10×16	440	10×20	467	13×21	605
470		6.3×11	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	825	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	13×21	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 (µF)	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	6.3×11	11	6.3×11	11	6.3×11	13	8×12	12	8×12	13	10×13	13
1.0		5×11	18	6.3×11	15	6.3×11	17	6.3×11	17	8×12	17	6.3×12	17	10×13	20
2.2		5×11	27	6.3×11	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	6.3×11	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	10×17	80
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

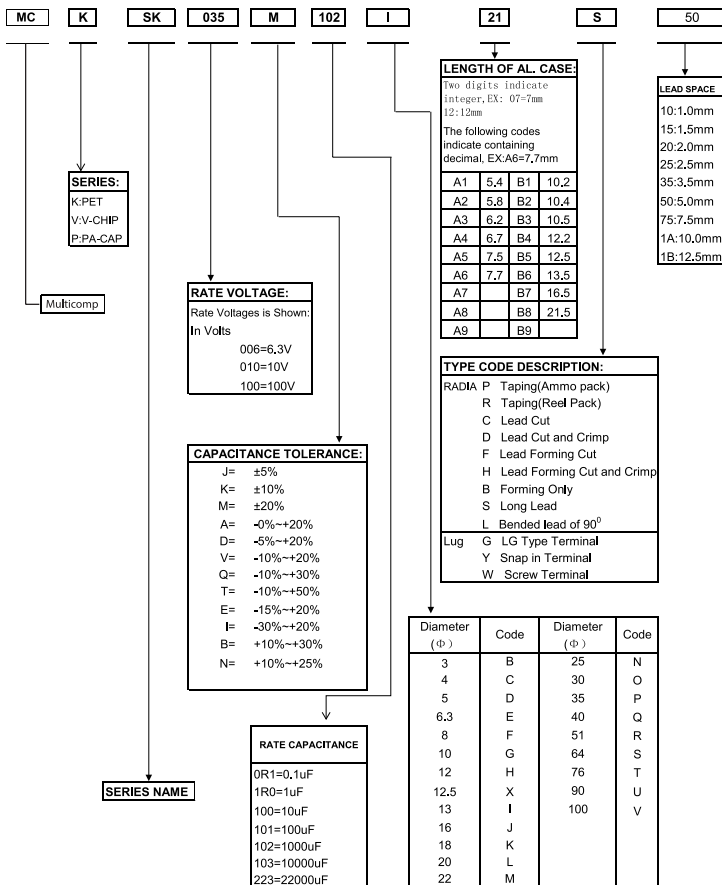
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Cap (µF)	WV (V) (Code)	100 (2A)		160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
120		10×25	352	16×26	330	16×26	330	16×32	418	18×35	315	18×40	495	18×45	605
150		13×21	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



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