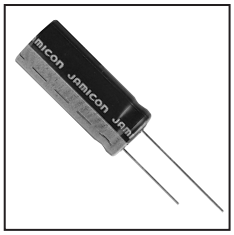
- High temperature 105°C and high reliability
- Corresponding product to RoHS



SPECIFICATION

Item	Characteristic														
Operation Temperature Range	-55 ~ +105°C			-40 ~ +105°C				-25 ~ +105°C							
Rated Working Voltage	6.3 ~ 100VDC			160 ~ 400VDC				450VDC							
Capacitance Tolerance (120Hz 20°C)	±20%(M)														
Leakage Current (20°C)	6.3~100 VDC I ≦0.01CV or 4 (μA)							160~450 VDC I ≦0.03CV +40 (μA)max							
	*Whichever is greater after 3 minutes I : Leakage Current(μA) C : Rated Capacitance(μF) V : Working Voltage(V)														
Surge Voltage (20°C)	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	S.V.	8	13	20	32	44	63	79	125	200	250	300	400	450	500
Dissipation Factor (tan δ) (120Hz 20°C)	Add 0.02 per 1000 μF for more than 1000 μF														
	W.V.	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450
	tan δ	0.24	0.20	0.17	0.15	0.12	0.10	0.10	0.08	0.15	0.15	0.15	0.20	0.20	0.20
Low Temperature Stability	Impedance ratio at 120Hz														
	Rated Voltage (V)	6.3		10		16		25		35~100		160~250		350~400	450
	-25°C / +20°C	4		3		2		2		2		3		6	15
	-40°C / +20°C	10		8		6		4		3		4		10	—
Load Life	After 2000 hours application of W.V. and +105°C ripple current value, the capacitor shall meet the following limits. (DC + ripple peak voltage ≦ rate working voltage)														
	Capacitance Change	≦±25% of initial value for 6.3~16 W.V., ≦±20% of initial value for 25~450 W.V.													
	Dissipation Factor	≦200% of initial specified value													
	Leakage current	≦initial specified value													
Shelf Life	At +105°C no voltage application after 1000 hours the capacitor shall meet the limits for load life characteristics. (with voltage treatment)														

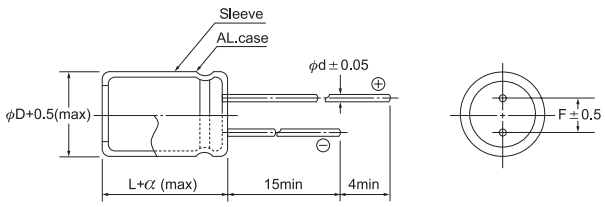
DIMENSIONS (mm)

φD	5	6.3	8	10	12.5	16	18	20	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0	12.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8	1.0	1.0
α	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0

RIPPLE CURRENT COEFFICIENTS

Temperature(°C)	65	85	105
Multiplier	1.75	1.40	1.00

Frequency(Hz)	60	120	1k	≧10k
W.V.	Multiplier			
6.3~25V	0.85	1.00	1.10	1.20
35~100V	0.80	1.00	1.15	1.25
160~250V	0.75	1.00	1.25	1.40
350~450V	0.70	1.00	1.30	1.80



CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
Max ripple current : mA(rms) 105°C 120Hz

V(DC) / μF \ Item	6.3		10		16	
	DxL	R.C.	DxL	R.C.	DxL	R.C.
47				→	5x11	90
100	5x11	110	5x11	120	5x11	130
220	5x11	160	5x11	180	6.3x11	220
330	6.3x11	220	6.3x11	250	6.3x11	270
					8x11	310
470	6.3x11	270	6.3x11	290	8x11	370
1000	8x11	460	10x12.5	560	10x12.5	600
					10x16	670
2200	10x16	810	10x16	880	12.5x20	1180
			10x20	970		
3300	10x20	1050	12.5x20	1280	12.5x25	1510
4700	12.5x20	1350	12.5x25	1590	16x25	1830
6800	12.5x25	1680	16x25	1940	16x25	2040
					16x32	2120
10000	16x25	2020	16x32	2210	16x36	2430
			16x36	2330	18x36	2590
15000	16x32	2200	16x36	2540	18x40	2960
	16x36	2320	18x36	2710	20x40	3040
22000	18x36	2660	18x40	3050	22x40	3390
	18x40	2810	20x40	3130	22x50	3740
33000	22x40	3230	22x50	3840	25x50	4200
	22x50	3560				
47000	22x50	3700	25x50	4260		
68000	22x50	3820				

V(DC) / μF \ Item	25		35		50	
	DxL	R.C.	DxL	R.C.	DxL	R.C.
1				→	5x11	17
2.2				→	5x11	25
3.3				→	5x11	31
4.7				→	5x11	36
10	5x11	43	5x11	49	5x11	55
22	5x11	65	5x11	70	5x11	80
33	5x11	80	5x11	90	5x11	95
47	5x11	95	5x11	110	6.3x11	130
68	5x11	110	6.3x11	140	6.3x11	160
100	5x11	140	6.3x11	170	8x11	220
	6.3x11	160				
220	6.3x11	230	8x11	300	10x12.5	370
	8x11	270				
330	8x11	330	10x12.5	410	10x16	500
470	10x12.5	440	10x16	550	10x20	660
1000	10x16	710	12.5x20	1000	12.5x25	1210
	10x20	790				
2200	12.5x25	1370	16x25	1640	16x32	1850
					16x36	1950
3300	16x25	1730	16x32	1960	18x36	2360
			16x36	2070		
4700	16x32	1990	16x36	2260		
			18x36	2410		
6800	16x36	2330	18x40	2780	22x50	3490
	18x36	2480				
10000	18x40	2820	22x50	3540	25x50	3930
	20x40	2890				
15000	22x50	3620	22x50	3750		
22000	25x50	4080				

All blank voltage on sleeve marking is the same voltage as" → "point to.

RADIAL TYPE

CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
Max ripple current : mA(rms) 105°C 120Hz

μF \ V(DC) / Item	63		100	
	DxL	R.C.	DxL	R.C.
10	5x11	55	5x11	60
			6.3x11	65
22	5x11	80	6.3x11	100
33	6.3x11	110	8x11	140
47	6.3x11	130	8x15	190
			10x12.5	190
68	8x11	180	10x12.5	230
100	8x11	220	10x16	310
	10x12.5	250	10x20	340
220	10x16	410	12.5x20	570
			12.5x25	630
330	10x20	550	12.5x25	780
470	12.5x20	750	16x25	950
1000	16x25	1310	18x36	1630
			18x40	1720
2200	18x36	2080	22x50	2730
4700	22x50	3220		
6800	25x50	3740		

μF \ V(DC) / Item	160		200		250	
	DxL	R.C.	DxL	R.C.	DxL	R.C.
1	6.3x11	18	6.3x11	19	6.3x11	21
2.2	6.3x11	26	6.3x11	28	6.3x11	31
3.3	6.3x11	32	6.3x11	34	6.3x11	37
					8x11	44
4.7	6.3x11	38	6.3x11	41	8x11	50
			8x11	48		
10	8x11	65	8x11	70	10x12.5	85
			10x12.5	80	10x16	95
22	10x12.5	110	10x16	130	10x20	150
	10x16	120	10x20	140	12.5x20	170
33	10x16	150	10x20	170	10x25	210
	10x20	160	12.5x20	200	12.5x20	210
47	10x20	190	12.5x20	240	12.5x20	260
	12.5x20	220			12.5x25	280
68	12.5x20	260	12.5x25	310	16x25	350
100	12.5x25	350	16x25	390	16x25	420
					16x32	440
220	16x32	560	16x36	640	18x36	740
	16x36	590	18x40	720		
330	18x36	770	18x40	880	20x40	980
	18x40	820				
470	18x40	970	22x40	1130	22x50	1360
	22x40	1050				
1000	25x50	1820				

CASE SIZE & MAX RIPPLE CURRENT

Case size : D x L (mm)
Max ripple current : mA(rms) 105°C 120Hz

μF \ V(DC) / Item	350		400		450	
	DxL	R.C.	DxL	R.C.	DxL	R.C.
1	8x11	21	8x11	21	10x12.5	22
2.2	8x11	31	8x11	32	8x11	29
			10x12.5	35	10x20	39
3.3	8x11	37	8x11	39	10x16	44
	10x12.5	42	10x12.5	43	12.5x20	55
4.7	8x11	45	8x11	46	10x16	50
	10x12.5	50	10x16	55	12.5x20	65
10	10x16	80	10x16	85	10x20	85
	10x20	90	12.5x20	100	16x25	110
22	12.5x20	150	12.5x25	170	12.5x25	160
	12.5x25	170			16x32	170
33	12.5x20	180	16x25	220	16x32	200
	16x25	210	16x32	220	18x36	230
47	16x25	250	16x25	270	16x36	260
	16x36	270	18x36	300		
68	16x32	310	16x32	320	18x36	330
100	18x36	430	18x36	440	18x40	420
	18x40	450	20x40	480		
220	22x50	820	25x50	880	25x50	800
330	25x50	1080				

RADIAL TYPE