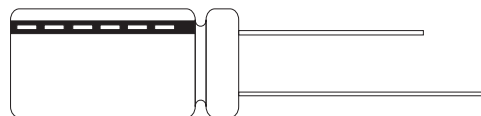


FEATURES

- 105°C, 2,000 ~ 5,000 hours assured
- Low ESR, suitable for switching power supplies
- Smaller size with large permissible ripple current
- RoHS Compliance



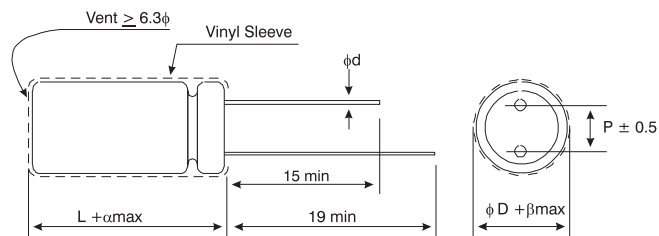
SPECIFICATIONS

Item	Performance								
Operating Temp.	-40°C ~ +105°C								
Capacitance Tolerance	± 20% (120Hz, 20°C)								
Leakage Current (at 20°C)	I = 0.01CV or 3 (A) whichever is greater (after 2 minutes) Where, C= rated capacitance in F. V= rated DC working voltage in V.								
Dissipation Factor Tan at 120Hz, 20°C	Rated Voltage	6.3	10	16	25	35	50	63	
	Tan (max)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	
	When the capacitance exceeds 1000 F, 0.02 shall be added every 1000 F increase.								
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table.								
	Rated Voltage	6.3	10	16	25	35	50	63	
	Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2
		Z(-40°C)/Z(+20°C)	8	6	4	3	3	3	
Load Life Test	Test Time	2,000 hours for D = 5 ~ 8mm 4,000 hours for D = 10mm 5,000 hours for D ≥ 12.5mm							
	Capacitance Change	Within ±25% of initial value							
	Dissipation Factor	Less than 200% of specified value							
	Leakage Current	Within specified value							
	*The above specifications shall be satisfied when capacitors are restored to 20°C after the rated voltage applied with rated ripple current for test time at 105°C.								
Shelf Life Test	Test Time	1,000 hours							
	Capacitance Change	Within ±20% of initial value							
	Dissipation Factor	Less than 200% of specified value							
	Leakage Current	Within specified value							
	*The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied.								
Ripple Current & Frequency Multipliers	Freq. (Hz)	120	1K	10K	100K				
	Cap (μF)	0.47 ~ 180	0.40	0.75	0.90	1.0			
		220 ~ 560	0.50	0.85	0.94	1.0			
		680 ~ 1,800	0.60	0.87	0.95	1.0			
		2,200 ~ 3,900	0.75	0.90	0.95	1.0			
		4,700 ~	0.85	0.95	0.98	1.0			
Standards	Satisfies Characteristic JIS C 5101-4								

DIMENSIONS

Unit: mm

D	5	6.3	8	10	12.5	16	18
P	2.0	2.5	3.5	5.0	7.5	7.5	
d	0.5		0.6	0.8	0.8		
α	1.0		1.5				
β	0.5						



DIMENSIONS & PERMISSIBLE RIPPLE CURRENT

Dimension: φDxL (mm)
Ripple Current: mA/rms at 100Hz, 105°C

V.DC Item μF	25V (1E)					35V (1V)					50V (1H)				
	D x L	Impedance (Max/100K Hz)		Ripple Current (MA/rms, 105°C)		D x L	Impedance (Max/100K Hz)		Ripple Current (MA/rms, 105°C)		D x L	Impedance (Max/100K Hz)		Ripple Current (MA/rms, 105°C)	
		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz		20°C	-10°C	120Hz	100KHz
0.47											5 x 11	5.50	22.0	72	6.8
1.0											5 x 11	4.00	16.0	83	12
2.2											5 x 11	2.50	10.0	83	17
3.3											5 x 11	2.20	8.8	83	21
4.7											5 x 11	1.90	7.6	83	35
10											5 x 11	1.50	6.0	83	40
22											5 x 11	0.70	2.8	83	72
33						5 x 11	0.58	2.3	84	210					
47	5 x 11	0.58	2.3	84	210										
56						6.3 x 11	0.22	0.87	136	340	6.3 x 11	0.30	1.2	217	118
100	6.3 x 11	0.22	0.87	136	340						8 x 11.5	0.17	0.68	371	222
120											8 x 16	0.12	0.48	392	292
150											10 x 12.5	0.12	0.48	588	304
180						8 x 11.5	0.13	0.52	256	640	8 x 20	0.091	0.36	525	364
220	8 x 11.5	0.13	0.52	320	640	8 x 16	0.0876	0.35	420	840	10 x 16	0.084	0.34	728	525
270						10 x 12.5	0.080	0.32	432	865	10 x 20	0.060	0.24	896	610
330	8 x 16	0.057	0.35	420	840	8 x 20	0.069	0.27	525	1,050	12.5 x 16	0.061	0.20	637	630
470	10 x 12.5	0.08	0.32	432.5	865	10 x 16	0.06	0.24	605	1,210	10 x 25	0.055	0.22	882	720
560	8 x 20	0.069	0.27	525	1,050	10 x 20	0.046	0.18	700	1,400	10 x 30	0.043	0.17	1,176	845
680	10 x 16	0.06	0.24	605	1,210	12.5 x 16	0.049	0.16	725	1,450	12.5 x 20	0.045	0.15	1,192	830
820						10 x 25	0.042	0.17	825	1,650	16 x 16	0.055	0.17	1,192	845
1,000	10 x 20	0.045	0.18	840	1,400	12.5 x 25	0.027	0.089	1,338	2,230	12.5 x 25	0.042	0.15	1,304	975
1,200	12.5 x 16	0.049	0.16	870	1,450	16 x 16	0.042	0.12	1,164	1,940	18 x 16	0.054	0.15	1,376	965
1,500	10 x 25	0.042	0.17	990	1,650	12.5 x 30	0.024	0.078	1,590	2,650	12.5 x 30	0.030	0.10	1,520	1,386
1,800	12.5 x 25	0.027	0.089	1,338	2,230	16 x 20	0.027	0.078	1,518	2,530	16 x 20	0.026	0.067	1,716	2,860
2,200	12.5 x 30	0.024	0.078	1,590	2,650	12.5 x 35	0.020	0.065	1,728	2,880	16 x 25	0.019	0.049	2,355	3,140
2,700	16 x 16	0.042	0.12	1,164	1,940	16 x 35	0.015	0.044	2,707	3,610	18 x 25	0.017	0.050	2,587	3,450
3,300	18 x 16	0.043	0.11	1,326	2,210	18 x 20	0.026	0.067	1,716	2,860	16 x 35.5	0.019	0.057	2,286	1,890
3,900	12.5 x 35	0.02	0.065	2,160	2,880	18 x 25	0.021	0.060	1,758	2,930	16 x 40	0.016	0.048	2,466	2,226
4,700	16 x 20	0.027	0.078	1,518	2,530	18 x 30	0.017	0.056	2,010	3,350	18 x 31.5	0.021	0.057	2,466	2,181
5,600	18 x 20	0.027	0.078	1,518	2,530	18 x 35	0.015	0.044	2,707	3,610	18 x 40	0.014	0.038	2,349	2,850
	18 x 25	0.021	0.06	2,198	2,930	18 x 40	0.013	0.038	3,060	4,080					
	16 x 31.5	0.017	0.05	2,588	3,450	18 x 35.5	0.014	0.038	3,165	4,220					
	18 x 25	0.019	0.049	2,355	3,140	18 x 40	0.012	0.032	3,210	4,280					
	16 x 35.5	0.015	0.044	2,708	3,610										
	18 x 31.5	0.015	0.04	3,128	4,170										
	16 x 40	0.013	0.038	3,468	4,080										
	18 x 35.5	0.014	0.038	3,587	4,220										
	18 x 40	0.012	0.032	3,638	4,280										