

FEATURES

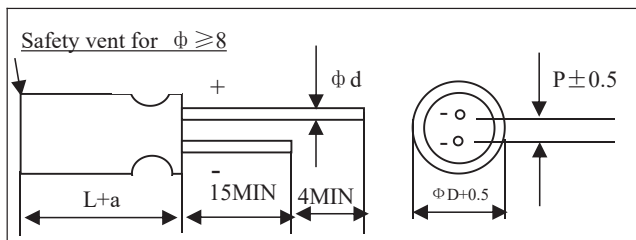
- 1.Low impedance for high frequency
2. Long life 3000~7000 hour at 105°C.

SPECIFICATIONS

Item	Performance Characteristics																											
Operating Temperature Range	-40 to +105℃																											
Rated Working voltage Range	6.3 to 50V																											
Nominal Capacitance Range	22 ~6800(uF)																											
Capacitance Tolerance	±20%（120Hz, +20℃）(M)																											
Leakage Current	I ≤ 0.01CV or 4(uA)after 2 minutes Whichever is greater measured with rated working voltage at +20℃																											
Dissipation Factor tan δ (120Hz+20℃)	<table><tr><td>Working voltage(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>tan δ (max.)</td><td>0.18</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.08</td></tr></table> For capacitance value >1000uF add 0.02per another 1000uF							Working voltage(V)	6.3	10	16	25	35	50	tan δ (max.)	0.18	0.16	0.14	0.12	0.10	0.08							
Working voltage(V)	6.3	10	16	25	35	50																						
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Low Temperature Characteristics	Impedance ratio max. at 120Hz <table><tr><td>Working voltage(V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Z-25℃/Z+20℃</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z-40℃/Z+20℃</td><td>8</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td></tr></table>							Working voltage(V)	6.3	10	16	25	35	50	Z-25℃/Z+20℃	4	3	2	2	2	2	Z-40℃/Z+20℃	8	6	4	3	3	3
Working voltage(V)	6.3	10	16	25	35	50																						
Z-25℃/Z+20℃	4	3	2	2	2	2																						
Z-40℃/Z+20℃	8	6	4	3	3	3																						
Multiplier for Ripple Current vs. Temperature	<table><tr><td>Temperature℃</td><td>45</td><td>60</td><td>70</td><td>85</td><td>95</td><td>105</td></tr><tr><td>Multiplier</td><td>2.1</td><td>1.9</td><td>1.65</td><td>1.4</td><td>1.25</td><td>1.00</td></tr></table>							Temperature℃	45	60	70	85	95	105	Multiplier	2.1	1.9	1.65	1.4	1.25	1.00							
Temperature℃	45	60	70	85	95	105																						
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High temperature Loading	Test conditions Duration : Ambient temperature :+105℃ Applied voltage : Rated DC working voltage Post test requirements at +20℃ <table><tr><td>Dφ</td><td>6.3~10V</td></tr><tr><td>Φ5~6.3</td><td>3000</td></tr><tr><td>Φ8</td><td>4000</td></tr><tr><td>Φ10</td><td>5000</td></tr><tr><td>Φ13</td><td>7000</td></tr></table> Leakage current : ≤ Initial specified value Capacitance change : ≤ ±25% of initial measured value tan δ : ≤200% of initial specified value							Dφ	6.3~10V	Φ5~6.3	3000	Φ8	4000	Φ10	5000	Φ13	7000											
Dφ	6.3~10V																											
Φ5~6.3	3000																											
Φ8	4000																											
Φ10	5000																											
Φ13	7000																											
Shelf life	Test conditions Duration : 1000hours Ambient temperature :+105℃ Applied voltage : (None) Post test requirements at +20℃ Same Limits for high temperature loading																											
Others	JIS C-5141 JIS C-5102																											

CASE SIZE TABLE

Unit:mm



D φ	5	6.3	8	8	10	13	16	18
P	2.0	2.5	3.5	3.5	5.0	5.0	7.5	7.5
d φ (±0.05)	0.5			0.6			0.8	

aMAX	(L<20)1.5
	(L≥20)2.0

Multiplier for Ripple Current vs. Frequency

CAP (uF) \ Hz		50(60)	120	400	1k	10k	50-100K
Multiplier	CAP ≤ 10 10 < CAP ≤ 100 100 < CAP ≤ 1000 1000 ≤ CAP	0.47	0.59	0.76	0.85	0.97	1
		0.52	0.61	0.78	0.89	0.97	1
		0.58	0.75	0.88	0.92	0.98	1
		0.63	0.89	0.91	0.93	0.98	1

STANDARD RATINGS

Voltage Item Cap.(uF) Code		6.3V(0J)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
100	107	5×11	0.50	205	125
220	227	6.3×11	0.30	350	260
330	337	6.3×11	0.13	410	308
470	477	8×12	0.10	640	480
680	687	8×12	0.076	745	560
1000	108	10×13	0.053	1035	920
1500	158	10×20	0.023	1825	1625
2200	228	10×25	0.022	2155	1918
3300	338	13×21	0.021	2360	2100
4700	478	13×30	0.016	3295	2933
6800	688	16×25	0.016	3460	3080

Voltage Item Cap.(uF) Code		10V(1A)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
100	107	5×11	0.30	252	154
220	227	6.3×11	0.13	410	308
330	337	8×12	0.105	640	480
470	477	8×12	0.072	760	570
680	687	8×16	0.056	1000	750
1000	108	10×17	0.038	1435	1277
1500	158	10×25	0.022	2155	1918
2200	228	13×21	0.021	2365	2105
3300	338	13×25	0.018	2775	2470
4700	478	13×35	0.015	3405	3030

STANDARD RATINGS

Voltage Item Cap.(uF) Code		16V(1C)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
100	107	6.3×11	0.20	360	220
220	227	8×12	0.10	575	431
330	337	8×12	0.072	760	570
470	477	10×13	0.053	1035	776
680	687	10×17	0.038	1435	1076
1000	108	10×20	0.023	1825	1369
1500	158	13×21	0.021	2365	2105
2200	228	13×25	0.018	2770	2400
3300	338	13×35	0.015	3400	3026

Voltage Item Cap.(uF) Code		25V(1E)			
		Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)	
			20°C/100KHZ	105°C/100KHz	105°C/120Hz
47	476	5×11	0.30	255	155
100	107	6.3×11	0.13	410	250
220	227	8×12	0.072	762	572
330	337	10×13	0.053	1035	776
470	477	10×17	0.038	1432	1075
680	687	10×20	0.023	1825	1370
1000	108	13×21	0.021	2365	1775
1500	158	13×25	0.018	2772	2465
2200	228	13×35	0.015	3405	3030
3300	338	16×30	0.014	3980	3542

STANDARD RATINGS

Voltage Cap.(uF) Code		Item	35V(1V)		
			Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)
				20°C/100KHZ	105°C/100KHz 105°C/120Hz
33	336		5×11	0.30	255 156
47	476		6.3×11	0.25	465 284
100	107		8×12	0.10	595 363
220	227		10×13	0.053	1030 628
330	337		10×17	0.038	1432 1074
470	477		10×20	0.023	1822 1367
680	687		13×25	0.021	2380 1785
1000	108		13×25	0.018	2775 2080
1500	158		13×35	0.015	3400 3026

Voltage Cap.(uF) Code		Item	50V(1H)		
			Case size φ D×L(mm)	Impedance(Ω MAX.)	Allowable ripple(mA rms)
				20°C/100KHZ	105°C/100KHz 105°C/120Hz
22	226		5×11	0.34	240 145
33	336		6.3×11	0.26	470 287
47	476		6.3×11	0.23	542 330
100	107		8×12	0.074	725 442
220	227		10×17	0.042	1372 837
330	337		10×25	0.028	1870 1140
470	477		13×25	0.027	2055 1255
680	687		13×30	0.021	2862 1745
1000	108		16×30	0.021	3030 1848