

FEATURESS

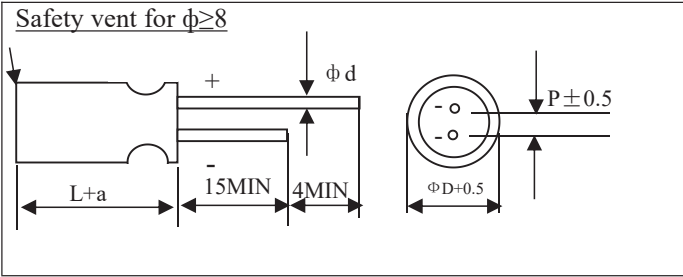
- 1.Extremely low and stable leakage current characteristics
- 2.Close capacitance tolerance $\pm 20\%$ ($\pm 10\%$)

SPECIFICATIONS

Item	Performance Characteristics																																						
Operating Temperature Range	-40 to +105℃																																						
Rated Working voltage Range	6.3 to 100V																																						
Nominal Capacitance Range	0.1- 10000(uF)																																						
Capacitance Tolerance	±20%（120Hz, +20℃）																																						
Leakage Current	I≤0.002CV or 0.3(uA) Whichever is greater measured after 2 minutes application of 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><td>63</td><td>100</td></tr><tr><td>tan δ (max.)</td><td>0.28</td><td>0.24</td><td>0.20</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	63	100	tan δ (max.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08												
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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><td>63</td><td>100</td></tr><tr><td>Z-25℃/Z+20℃</td><td>3(4)</td><td>2(3)</td><td>2</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td><td>1.5</td></tr><tr><td>Z-40℃/Z+20℃</td><td>5(8)</td><td>4(6)</td><td>3(4)</td><td>2(4)</td><td>2(3)</td><td>2(3)</td><td>2(3)</td><td>2(3)</td></tr></table> Figure in () is applicable for products≥10×16									Working voltage(V)	6.3	10	16	25	35	50	63	100	Z-25℃/Z+20℃	3(4)	2(3)	2	1.5	1.5	1.5	1.5	1.5	Z-40℃/Z+20℃	5(8)	4(6)	3(4)	2(4)	2(3)	2(3)	2(3)	2(3)			
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Multiplier for Ripple Current vs. Frequency	<table><tr><td colspan="2">CAP(uF)\Hz</td><td>60(50)</td><td>120</td><td>400</td><td>1K</td><td>10K</td><td>50K-100K</td></tr><tr><td rowspan="3">Multiplier</td><td>CAP≤10</td><td>0.8</td><td>1</td><td>1.30</td><td>1.45</td><td>1.65</td><td>1.70</td></tr><tr><td>10<CAP≤100</td><td>0.8</td><td>1</td><td>1.23</td><td>1.36</td><td>1.48</td><td>1.53</td></tr><tr><td>100<CAP≤1000</td><td>0.8</td><td>1</td><td>1.16</td><td>1.25</td><td>1.35</td><td>1.38</td></tr></table>									CAP(uF)\Hz		60(50)	120	400	1K	10K	50K-100K	Multiplier	CAP≤10	0.8	1	1.30	1.45	1.65	1.70	10<CAP≤100	0.8	1	1.23	1.36	1.48	1.53	100<CAP≤1000	0.8	1	1.16	1.25	1.35	1.38
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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>1. 5</td><td>1. 3</td><td>1. 45</td><td>1. 3</td><td>1. 15</td><td>1. 00</td></tr></table>									Temperature℃	45	60	70	85	95	105	Multiplier	1. 5	1. 3	1. 45	1. 3	1. 15	1. 00																
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High temperature Loading	Test conditions Duration :2000 hours Ambient temperature :+105℃ Applied voltage :Rated DC working voltage Post test requirements at +20℃ Leakage current : ≤ Initial specified value Capacitance change : ≤ ±20% of initial measured value tan δ : ≤150% of initial specified value																																						
Shelf life	Test conditions Duration :1000 hours Ambient temperature :+105℃ Applied voltage : (None) Post test requirements at +20℃ Leakage current : ≤Initial specified value Capacitance change : ≤ ±20% of initial measured value Tan δ : ≤150% of initial specified value Pre –treament for measurements Measurement shall be conducted after application of DC working voltage for 30 minutes																																						
Others	JIS C-5141 JIS C-5102																																						

CASE SIZE TABLE

Unit:mm



D ϕ	5	6.3	8	10	13	16	18
P	2.0	2.5	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 $\geq$ 20)2.0

DIMENSIONS

$\phi D \times L$ (mm)

WV(SV)		6.3V(8)		10V(13)		16V(20)		25V(32)	
Cap.(uF)	Code	0J		1A		1C		1E	
4.7	475							5 $\times$ 11	45
6.8	685							5 $\times$ 11	55
10	106					5 $\times$ 11	55	5 $\times$ 11	70
15	156					5 $\times$ 11	70	5 $\times$ 11	85
22	226					5 $\times$ 11	85	5 $\times$ 11	100
33	336					5 $\times$ 11	100	6.3 $\times$ 11	140
47	476			5 $\times$ 11	110	6.3 $\times$ 11	140	6.3 $\times$ 11	170
68	686			6.3 $\times$ 11	150	6.3 $\times$ 11	160	8 $\times$ 12	230
100	107			6.3 $\times$ 11	180	8 $\times$ 12	230	8 $\times$ 12	280
150	157			8 $\times$ 12	250	8 $\times$ 12	280	10 $\times$ 12.5	370
220	227			8 $\times$ 12	310	10 $\times$ 12.5	370	10 $\times$ 15	400
330	337			10 $\times$ 12.5	400	10 $\times$ 15	420	10 $\times$ 20	490
470	477	10 $\times$ 12.5	390	10 $\times$ 15	530	10 $\times$ 20	550	13 $\times$ 21	660
680	687	10 $\times$ 16	480	10 $\times$ 20	600	13 $\times$ 21	730	13 $\times$ 25	810
1000	108	10 $\times$ 20	650	13 $\times$ 21	810	13 $\times$ 25	910	16 $\times$ 26	1010
1500	158	13 $\times$ 25	910	13 $\times$ 25	1020	16 $\times$ 26	1150	16 $\times$ 30	1270
2200	228	13 $\times$ 25	1060	16 $\times$ 26	1200	16 $\times$ 26	1300	16 $\times$ 35	1440
3300	338	16 $\times$ 26	1270	16 $\times$ 30	1420	16 $\times$ 35	1550	18 $\times$ 40	1720
4700	478	16 $\times$ 30	1500	16 $\times$ 35	1650	18 $\times$ 36	1820		
6800	688	18 $\times$ 36	1760	18 $\times$ 36	1890				
10000	109	18 $\times$ 40	1900					Case size	Allowable ripple

Allowable Ripple (mA rms)at 105℃ 120Hz

DIMENSIONS

 $\Phi D \times L$ (mm)

WV(SV)		35V(44)		50V(63)		63V(79)		100V(125)	
Cap.(μ F)	Code	1V		1H		1J		2A	
0.1	104			5×11	1.1			5×11	2.1
0.15	154			5×11	1.6			5×11	3.2
0.22	224			5×11	2.3			5×11	4.7
0.33	334			5×11	3.5			5×11	10.1
0.47	474			5×11	5.0			5×11	14.5
0.68	684			5×11	7.3			5×11	19
1	105			5×11	10.7			5×11	13
1.5	155			5×11	16			5×11	28
2.2	225			5×11	23			5×11	45
3.3	335			5×11	40			5×11	50
4.7	475			5×11	45			6.3×11	65
6.8	685			5×11	55	5×11	56	8×12	90
10	105			5×11	70	6.3×11	75	8×12	110
15	156	5×11	85	6.3×11	95	6.3×11	100	10×12.5	136
22	226	6.3×11	110	6.3×11	110	8×12	115	10×15	180
33	336	6.3×11	140	8×12	165	8×12	170	10×20	220
47	476	8×12	190	8×12	190	10×12.5	200	10×20	290
68	686	8×12	230	10×12.5	250	10×15	270	13×21	370
100	107	10×12.5	300	10×15	320	10×20	330	13×25	470
150	157	10×15	400	10×20	420	13×21	450	16×26	580
220	227	10×20	440	13×21	490	13×21	550	16×30	730
330	337	13×21	550	13×21	600	13×25	710	18×36	910
470	477	13×25	680	16×26	760	16×26	850		
680	687	16×26	840	16×26	910	16×30	1050		
1000	108	16×26	1100	16×30	1140	18×36	1330		
1500	158	16×35	1390	18×40	1480				
2200	228	18×36	1580					Case size	Allowable ripple

Allowable Ripple (mA rms)at 105℃120Hz