

FEATURES

1. Highly reliable capacitors that withstand under high ripple current.
2. Tow or three dimensions with same ratings.
3. Aluminum case designed explosion-proof vent.
4. Best for switching power supplies

SPECIFICATIONS

Item	Performance Characteristics																																																							
Operating Temperature Range	-40 to +105℃																																																							
Rated Working voltage Range	16 to 450V DC																																																							
Nominal Capacitance Range	56~47000(uF)																																																							
Capacitance Tolerance	±20% (120Hz, +20℃)																																																							
Leakage Current	I≤3 √CV after 5minutes application of rated working voltage at +20℃																																																							
Dissipation Factor tan δ (120Hz+20℃)	<table><tr><td>Working voltage(V)</td><td>10~16</td><td>25</td><td>35~50</td><td>63</td><td>80</td><td>100</td><td>160~200</td><td>250</td><td>315~450</td></tr><tr><td>tan δ (max.)</td><td>0.50</td><td>0.40</td><td>0.35</td><td>0.30</td><td>0.25</td><td>0.20</td><td>0.15</td><td>0.15</td><td>0.25</td></tr></table>														Working voltage(V)	10~16	25	35~50	63	80	100	160~200	250	315~450	tan δ (max.)	0.50	0.40	0.35	0.30	0.25	0.20	0.15	0.15	0.25																						
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Low Temperature characteristics	<table><tr><td>Working voltage(V)</td><td>16</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td><td>100</td><td>160</td><td>200</td><td>250</td><td>315</td><td>400</td><td>450</td></tr><tr><td>Z-25℃/Z+20℃</td><td>6</td><td>6</td><td>6</td><td>4</td><td>3</td><td>3</td><td>3</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td></tr><tr><td>Z-40℃/Z+20℃</td><td>15</td><td>15</td><td>10</td><td>8</td><td>6</td><td>6</td><td>6</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td><td>8</td></tr></table>														Working voltage(V)	16	25	35	50	63	80	100	160	200	250	315	400	450	Z-25℃/Z+20℃	6	6	6	4	3	3	3	8	8	8	8	8	8	Z-40℃/Z+20℃	15	15	10	8	6	6	6	8	8	8	8	8	8
	Working voltage(V)	16	25	35	50	63	80	100	160	200	250	315	400	450																																										
	Z-25℃/Z+20℃	6	6	6	4	3	3	3	8	8	8	8	8	8																																										
Z-40℃/Z+20℃	15	15	10	8	6	6	6	8	8	8	8	8	8																																											
Surge voltage	<table><tr><td>Working voltage(V)</td><td>10</td><td>16</td><td>25</td><td>35</td><td>40</td><td>50</td><td>63</td><td>100</td></tr><tr><td>Surge voltage</td><td>13</td><td>20</td><td>32</td><td>44</td><td>50</td><td>63</td><td>79</td><td>125</td></tr></table>														Working voltage(V)	10	16	25	35	40	50	63	100	Surge voltage	13	20	32	44	50	63	79	125																								
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High temperature Loading	Test conditions After 2000 hours application of rated voltage at +105℃ the capacitor shall meet the following limits Post test requirements at +20℃ Leakage current : ≤ Initial specified value Capacitance change : ≤ ±20% of initial measured value tan δ : ≤200% of initial specified value																																																							
Shelf life	At 105℃ no voltage applied after 1000hours the capacitors shall meet the following limite Post test requirements at+20℃ Leakage current :≤200 of Initial specified value Capacitance change :≤ ±15% of initial measured value Tan δ :≤150% of initial specified value																																																							
Others	JIS C-5141 JIS C-5102																																																							

Ripple current MULTIPLIERS

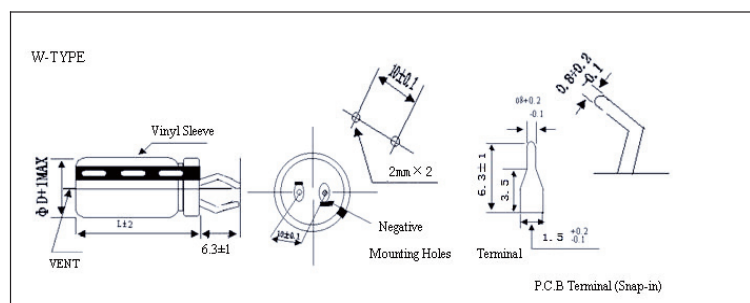
1)Maximum rms ripple current at 120Hz,105 °C are given in the table

2)Temperature multiplying factor: Where capacitors are operated at temperature other than 105°C,the maximum ripple current must be multiplied by the figure shown in the table below.

Temperature coefficient

Temperature (°C)	20~45	65	75	105
Factor	1	0.91	0.73	0.36

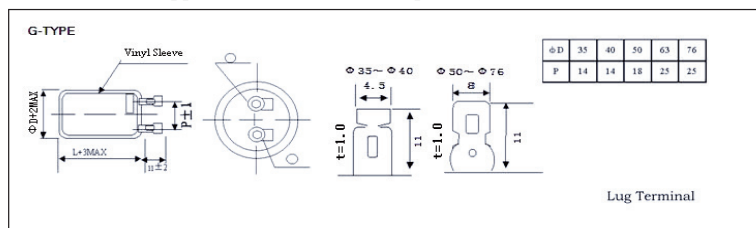
3) Frequency multiplying factor:



If capacitor are used to filter circuits at a frequency other than120Hz, the maximum ripple current must be multiplied by the figure shown in the table below.

Frequency coefficient

Frequency(Hz)	60	120	1k	10~50k
10~100V	0.9	1.0	1.15	1.25
160~250V	0.8	1.0	1.25	1.47
350~450V	0.8	1.0	1.30	1.47



DIMENSIONS

ΦD×L(mm)

Voltage Cap.(uF) Code ΦD		16V(1C)				25V(1E)				35V(1V)			
		22	25	30	35	22	25	30	35	22	25	30	35
3300	338									22×25			
										1.43			
4700	478					22×25				22×30			
						1.55				1.65			
5600	568					22×30				22×35	25×25		
						1.76				1.89	1.78		
6800	688	22×25				22×30	25×25			22×35	25×30	30×25	
		1.60				1.91	1.91			2.02	2.04	2.12	
8200	828	22×30				22×35	25×30	30×25		22×40	25×35		
		1.75				2.14	2.16	2.25		2.28	2.31		
10000	109	22×30	25×25			22×40	25×35			22×50	25×40	30×30	
		1.99	1.99			2.40	2.44			2.67	2.60	2.56	
12000	129	22×35	25×35	30×25		22×45	25×40	30×30			25×45	30×35	
		2.28	2.68	2.38		2.69	2.74	2.70			2.92	2.92	
15000	159	22×40	25×40	30×30			25×45	30×35	35×30		25×50	30×40	35×30
		2.64	3.04	3.00			3.15	3.13	3.22		3.26	3.28	3.20
18000	189	22×45	22×45	30×35			25×50	30×40				30×45	35×35
		2.98	3.40	3.39			3.54	3.54				3.74	3.69
22000	229		25×50	30×40				30×45	35×35				35×40
			3.81	3.83				4.24	3.96				4.16
27000	279			30×45	35×30				35×45				35×50
				4.30	3.74				4.75				4.92
33000	339			30×50	35×35				35×50				
				4.74	4.24				5.39				
39000	399				35×40								
					4.72								
47000	479				35×45								
					5.27								

Allowable Ripple (A rms)at 105°C 120Hz

ΦD×L(mm)

Voltage Cap.(uF) Code ΦD		50V(1H)				63V(1J)				80V(1K)			
		22	25	30	35	22	25	30	35	22	25	30	35
820	827									22×25			
										1.11			
1000	109									22×30	25×25		
										1.29	1.29		
1200	128					22×25				22×30	25×25		
						1.25				1.39	1.39		
1500	158					22×30	25×25			22×35	25×30		
						1.44	1.44			1.61	1.62		
1800	188	22×30				22×30	25×25			22×40	25×35	30×25	
		1.13				1.52	1.52			1.83	1.86	1.81	
2200	228					22×35	25×30			22×45	25×35	30×30	
						1.73	1.75			2.09	2.01	2.10	
2700	278	22×30	25×25			22×40	25×35	30×25			25×45	30×35	
		1.70	1.70			1.97	1.99	1.93			2.43	2.43	
3300	338	22×35	25×30			22×50	25×40	30×30			25×50	30×40	35×30
		1.96	2.00			2.32	2.27	2.24			2.76	2.78	2.71
3900	398	22×40	25×35	30×25			25×45	30×35				30×45	35×35
		2.25	2.28	2.22			2.54	2.55				3.12	3.07
4700	478	22×45	25×40	30×30			25×50	30×40	35×30			30×50	35×40
		2.56	2.61	2.58			2.88	2.90	2.83			3.52	3.50
5600	568	22×50	25×40	30×35				30×45	35×35				35×45
		2.89	2.81	2.95				3.28	3.24				3.87
6800	688		25×50	30×40	35×30			30×50	35×40				35×50
			3.37	3.39	3.31			3.73	3.71				4.19
8200	828			30×45	35×35				35×45				
				3.71	3.66				4.16				
10000	109			30×50	35×35				35×50				
				4.09	4.07								
12000	129				35×45				4.69				
					4.50								

Allowable Ripple (A rms)at 105°C 120Hz

DIMENSIONS		Φ D×L(mm)												
Voltage		100V(2A)				160V(2C)				200V(2D)				
Cap.(uF)	Code	Φ D	22	25	30	35	22	25	30	35	22	25	30	35
270	277						22×25				22×30			
							0.90				0.90			
330	337						22×30				22×35	25×30		
							1.00				1.05	1.05		
390	397						22×30				22×40	25×30		
							1.15				1.25	1.25		
470	477						22×35	25×30			22×45	25×35	30×30	
							1.30	1.30			1.35	1.35	1.35	
560	567		22×35				22×40	25×35			22×50	25×40	30×30	
			1.07				1.45	1.45			1.50	1.50	1.50	
680	687						22×45	25×40				25×45	30×35	35×30
							1.65	1.65				1.70	1.70	1.70
820	827		22×40	25×35			22×50	25×40	30×30	35×25			30×40	35×30
			1.35	1.35			1.80	1.80	1.65	1.80			1.90	1.90
1000	108		22×45	25×35				25×50	30×35	35×30			30×50	35×35
			1.54	1.56				2.30	1.80	2.00			2.15	2.15
1200	128		22×50	25×35	30×25				30×40	35×35				35×40
			1.74	1.76	1.71				2.00	2.30				2.30
1500	158		22×50	25×40	30×30				30×45	35×40				35×50
			1.99	2.03	2.00				2.30	2.65				2.75
1800	188			25×45	30×35				30×50	35×45				
				2.28	2.27				2.65	3.05				
2200	228			25×50	30×40	35×30				35×50				
				2.57	2.28	2.52				3.50				
2700	278				30×50	35×35								
					2.57	2.90								
3300	338					35×40								
						3.31								
3900	398					35×45								
						3.69								
4700	478					35×50								
						4.14								
												Case Size		
												Allowable ripple		

Allowable Ripple (A rms)at 105°C 120Hz

Voltage Cap.(uF) Code Φ D		Φ D×L(mm)											
		250V(2E)				400V(2G)				450V(2W)			
		22	25	30	35	22	25	30	35	22	25	30	35
56	566									22×30			
										0.41			
68	686					22×25				22×30	25×25		
						0.40				0.48	0.48		
82	826					22×30	25×25			22×35			
						0.50	0.50			0.56			
100	107					22×35	25×30			22×40	25×30	30×25	
						0.55	0.55			0.64	0.61	0.63	
120	127					22×40	25×30	30×25		22×45	25×35		
						0.60	0.60	0.60		0.72	0.71		
150	157	22×25				22×45	25×35	30×30		22×50	25×40	30×35	35×25
		0.65				0.70	0.70	0.70		0.83	0.81	0.80	0.82
180	187	22×30				22×50	25×40	30×30	35×25		25×45	30×35	
		0.75				0.85	0.85	0.85	0.85		0.92	0.91	
220	227	22×30	25×25				25×45	30×35	35×30			30×40	35×30
		0.85	0.85				0.90	0.90	0.90			1.05	1.03
270	277	22×35	25×30	30×25			25×50	30×40	35×30			30×50	35×35
		1.00	1.00	1.00			1.00	1.00	1.00			1.21	1.19
330	337	22×40	25×35	30×30				30×45	35×35				35×40
		1.10	1.10	1.10				1.25	1.25				1.38
390	397	22×45	25×40	30×30				30×50	35×40				35×45
		1.25	1.25	1.25				1.35	1.35				1.55
470	477		25×45	30×35	35×30				35×45				35×50
			1.30	1.30	1.30				1.45				1.74
560	567		25×50	30×40	35×30				35×50				
			1.55	1.55	1.55				1.65				
680	687			30×45	35×35								
				1.80	1.80								
820	827				35×40								
					1.95								
1000	108				35×45								
					2.30								Case Size Allowable ripple

Allowable Ripple (A rms)at 105℃120Hz