

# ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

105°C, MINATURIZED, LONG LIFE

# TS13D CD296



## FEATURES

- Load life of 3000 hours at 105°C, equal to 96000 Hours (11 years) at 55°C
- High ripple current
- Smaller Size
- PCB Mounting

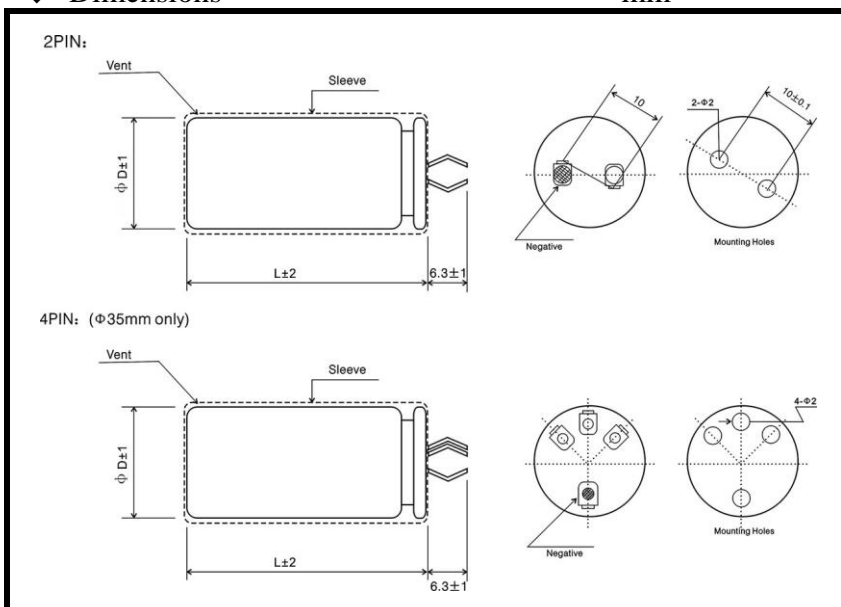
## ◆ Specifications

ITEMS		PERFORMANCE CHARACTERISTICS																												
Operating Temperature Range(°C)	10V~100V: -40~+105°C 160V~400V: -25~+105°C																													
Capacitance Tolerance(25°C, 120Hz)	±20%																													
Leakage Current(μA)	0.01CV or 1.5mA whichever is smaller. (25°C, after 5 minutes) C: Nominal Capacitance (μF) V: Rated Voltage (V)																													
Dissipation Factor(25°C, 120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63 100</th> <th>160~200</th> <th>250~ 00</th> </tr> </thead> <tbody> <tr> <td>Tan δ</td> <td>0.45</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.12</td> <td>0.15</td> </tr> </tbody> </table>				Rated Voltage (V)	10	16	25	35	50	63 100	160~200	250~ 00	Tan δ	0.45	0.35	0.30	0.25	0.20	0.15	0.12	0.15								
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Temperature Stability (120Hz)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>10,16</th> <th>25</th> <th>35</th> <th>50,63</th> <th>80,100</th> <th>160~200</th> <th>250~400</th> </tr> </thead> <tbody> <tr> <td>Impedance</td> <td>Z-25°C/Z+20°C</td> <td>4</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Ratio</td> <td>Z-40°C/Z+20°C</td> <td>15</td> <td>10</td> <td>8</td> <td>6</td> <td>5</td> <td>6</td> <td>--</td> </tr> </tbody> </table>				Rated Voltage (V)	10,16	25	35	50,63	80,100	160~200	250~400	Impedance	Z-25°C/Z+20°C	4	3	3	2	2	3	4	Ratio	Z-40°C/Z+20°C	15	10	8	6	5	6	--
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Load Life (+105°C)	Time	3000hours																												
	Leakage Current	Not more than the specified value.																												
	Capacitance Change	Within±20% of the initial value																												
	Dissipation Factor	Not more than 200% of the specified value.																												
Shelf Life (+105°C)	*After storage for 500hours at 105°C with no voltage applied, the capacitor shall meet the specified limits for "Load Life". After test: U <sub>R</sub> to be applied for 60 minutes, 24 to 48 hours before measurement.																													

## ◆ Dimensions

mm

## ◆ Multiplier for ripple current



## Frequency coefficient

Frequency(Hz)	50	120	1K	10K	20K
Rated Voltage(V)					
≤50	0.95	1	1.10	1.15	1.15
63~100	0.95	1	1.16	1.30	1.33
≥160	0.90	1	1.20	1.50	1.55

## Temperature coefficient

Temperature(°C)	+40	+55	+70	+85	+105
Factor	2.7	2.5	2.1	1.7	1.0

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## ◆ STANDARD RATINGS

WV(V) / □DxL (mm)	10		16		25		35		50		63		80		100	
	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple
	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms
22x25	6800	1.5	4700	1.4	3300	1.3	2200	1.1	1200	0.96	820	0.92	560	0.76	390	0.64
22x30	10000	1.9	6800	1.8	4700	1.6	2700	1.3	1800	1.2	1200	1.2	820	0.96	560	0.80
22x35	12000	2.1	8200	2.0	5600	1.8	3900	1.6	2200	1.4	1500	1.3	1000	1.1	680	0.92
22x40	15000	2.5	10000	2.3	6800	2.0	4700	1.9	2700	1.6	1800	1.5	1200	1.2	820	1.0
22x50	18000	2.8	15000	2.9	10000	2.6	6800	2.4	--	--	2200	1.7	1800	1.6	1200	1.3
25x25	8200	1.7	6800	1.8	4700	1.6	3300	1.3	1800	1.2	1200	1.1	820	0.96	560	0.80
25x30	12000	2.1	10000	2.2	5600	1.8	3900	1.6	2700	1.5	1500	1.3	1000	1.1	680	0.92
25x35	15000	2.5	12000	2.5	8200	2.2	5600	2.0	3300	1.8	1800	1.5	1500	1.4	1000	1.1
25x40	18000	2.8	15000	2.9	10000	2.6	6800	2.3	--	--	--	--	1800	1.6	--	--
25x50	--	--	18000	3.3	12000	2.9	8200	2.7	5600	2.5	3300	2.2	2200	1.8	1500	1.5
30x25	12000	2.2	10000	2.3	6800	2.0	4700	1.9	2700	1.6	1500	1.4	1200	1.3	820	1.0
30x30	18000	2.8	12000	2.6	8200	2.3	5600	2.1	3300	1.8	2200	1.7	1500	1.5	1000	1.2
30x35	22000	3.2	18000	3.3	12000	2.9	8200	2.9	4700	2.3	2700	2.0	1800	1.6	1200	1.4
30x40	--	--	22000	3.7	15000	3.3	10000	3.0	5600	2.5	3300	2.3	2200	1.9	1500	1.6
30x50	--	--	--	--	18000	3.8	12000	3.4	6800	2.9	4700	2.8	3300	2.3	2200	2.0
35x25	15000	2.6	12000	2.7	8200	2.4	5600	2.2	3300	1.8	2200	1.8	1500	1.5	1000	1.3
35x30	22000	3.3	18000	3.4	12000	3.0	8200	2.8	4700	2.4	2700	2.1	2200	1.9	1200	1.4
35x35	--	--	22000	3.9	15000	3.5	10000	3.1	5600	2.7	--	--	2700	2.2	1800	1.8
35x40	--	--	--	--	18000	3.9	12000	3.5	6800	3.0	4700	2.9	3300	2.4	2200	2.0
35x50	--	--	--	--	--	--	18000	4.5	10000	3.8	6800	3.6	4700	3.2	2700	2.3

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WV(V) / □DxL (mm)	160		180		200		250		315		350		400	
	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple	Cap	Ripple
	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms	uF	Arms
22x25	180	0.65	180	0.65	150	0.60	100	0.45	56	0.34	56	0.37	39	0.32
22x30	270	0.83	220	0.75	220	0.76	150	0.58	82	0.43	82	0.47	56	0.39
22x35	330	0.94	270	0.86	270	0.87	180	0.65	120	0.53	100	0.53	68	0.45
22x40	390	1.1	390	1.1	330	0.99	220	0.75	150	0.61	120	0.60	82	0.51
22x50	560	1.3	470	1.5	470	1.2	330	0.96	180	0.71	180	0.78	120	0.64
25x25	270	0.82	220	0.75	220	0.76	150	0.58	82	0.42	68	0.43	56	0.40
25x30	390	1.0	330	0.96	270	0.87	220	0.73	120	0.53	100	0.54	68	0.46
25x35	470	1.2	390	1.1	390	1.1	270	0.83	150	0.62	120	0.61	100	0.57
25x40	560	1.3	470	1.2	470	1.3	330	0.95	--	--	180	0.77	120	0.63
25x50	820	1.7	680	1.5	560	1.4	470	1.2	270	0.89	220	0.89	150	0.75
30x25	390	1.1	330	1.0	270	0.92	220	0.77	120	0.56	100	0.57	82	0.53
30x30	560	1.3	470	1.2	390	1.1	270	0.88	180	0.71	150	0.72	100	0.61
30x35	680	1.5	560	1.4	560	1.4	390	1.1	220	0.80	180	0.82	150	0.77
30x40	820	1.7	680	1.6	680	1.6	470	1.2	270	0.92	220	0.93	180	0.87
30x50	1000	2.0	1000	2.0	820	1.8	560	1.4	390	1.2	330	1.2	220	1.0
35x25	470	1.3	390	1.2	390	1.2	270	0.93	180	0.74	150	0.77	100	0.65
35x30	680	1.6	560	1.5	560	1.5	390	1.2	220	0.84	220	0.97	150	0.83
35x35	820	1.8	820	1.8	680	1.7	470	1.3	330	1.1	270	1.1	180	0.93
35x40	1000	2.0	1000	2.1	820	1.9	560	1.5	390	1.2	330	1.3	220	1.1
35x50	1500	2.6	1200	2.4	1200	2.4	820	1.9	470	1.4	470	1.6	330	1.3

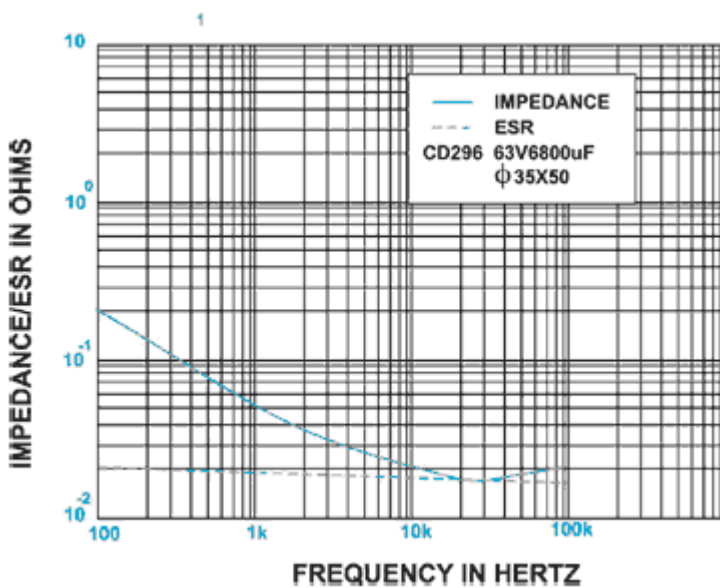
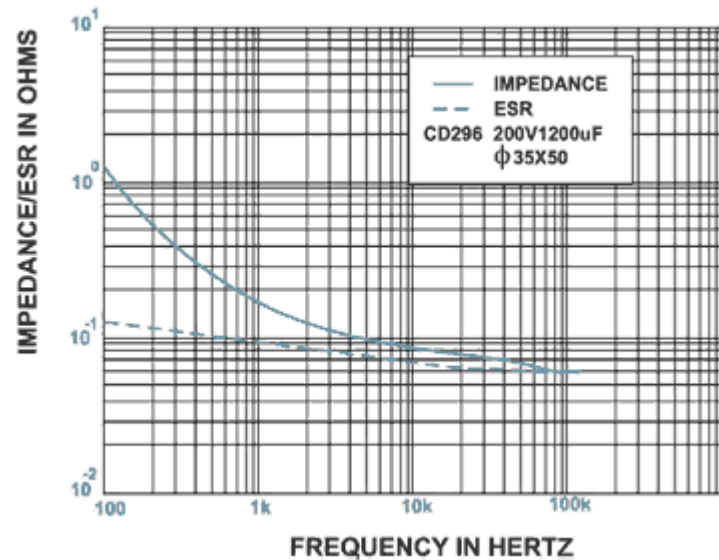
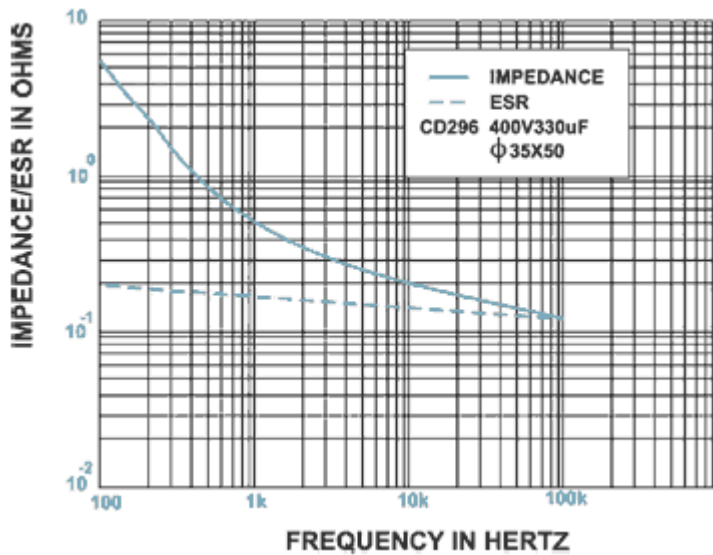
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## ◆ TYPICAL CURVES



Note: Specification are subject to change without notice. For more detail and update, please visit our website.