

# ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

GENERAL, MINIATURIZED

# TS13D CD293



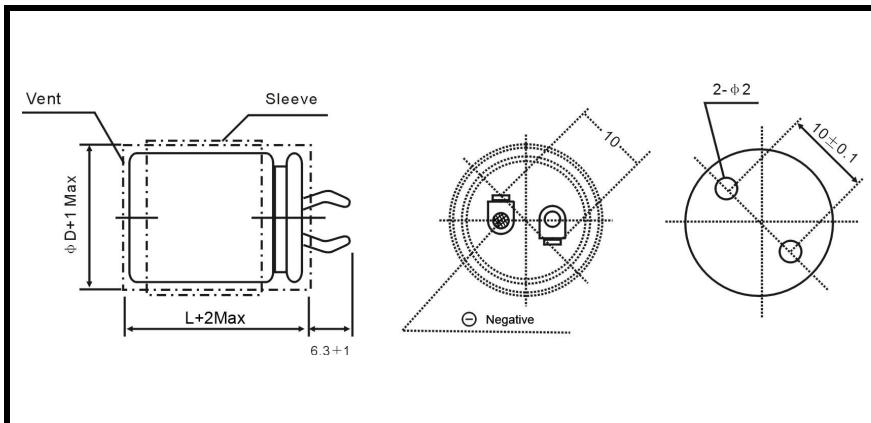
## FEATURES

- Load life of 2000 hours at 85°C
- High ripple current
- Smaller size PCB Mounting

## ◆ Specifications

ITEMS		PERFORMANCE CHARACTERISTICS																																											
Operating Temperature Range(°C)		-40~+85 (450WV:-25~+85)																																											
Capacitance Tolerance(25°C, 120Hz)		±20%																																											
Leakage Current(μA)		0.01CV or 1.5mA whichever is smaller. (at 25°C, after 5 minutes) C: Nominal Capacitance (μF) V: Rated Voltage (V)																																											
Dissipation Factor(20°C, 120Hz)		<table border="1"> <tr> <th>Rated voltage(V) Cap(μF)</th> <th>10~16</th> <th>25</th> <th>35~50</th> <th>63</th> <th>80~100</th> </tr> <tr> <td>2700</td> <td>----</td> <td>----</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> </tr> <tr> <td>3300~4700</td> <td>----</td> <td>0.35</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> </tr> <tr> <td>5600~6800</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.20</td> </tr> <tr> <td>8200</td> <td>0.40</td> <td>0.35</td> <td>0.35</td> <td>0.25</td> <td></td> </tr> </table>	Rated voltage(V) Cap(μF)	10~16	25	35~50	63	80~100	2700	----	----	0.20	0.15	0.15	3300~4700	----	0.35	0.25	0.20	0.15	5600~6800	0.40	0.35	0.30	0.20	0.20	8200	0.40	0.35	0.35	0.25		<table border="1"> <tr> <th>Rated voltage(V)</th> <th>160~200</th> <th>250~400</th> </tr> <tr> <td>ΦD(mm)</td> <td></td> <td></td> </tr> <tr> <td>22~30</td> <td>0.10</td> <td>0.15</td> </tr> <tr> <td>35</td> <td>0.12</td> <td>0.15</td> </tr> </table>	Rated voltage(V)	160~200	250~400	ΦD(mm)			22~30	0.10	0.15	35	0.12	0.15
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Temperature Stability (120Hz)		<table border="1"> <tr> <th>Rated Voltage (V)</th> <th>10</th> <th>16~35</th> <th>50~100</th> <th>160~200</th> <th>250~400</th> <th>450</th> </tr> <tr> <td>Impedance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Ratio</td> <td>Z-25°C/Z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td>Z-40°C/Z+20°C</td> <td>18</td> <td>15</td> <td>10</td> <td>6</td> <td>8</td> </tr> </table>						Rated Voltage (V)	10	16~35	50~100	160~200	250~400	450	Impedance							Ratio	Z-25°C/Z+20°C	5	4	3	3	4		Z-40°C/Z+20°C	18	15	10	6	8										
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## ◆ Dimensions



## ◆ Multiplier for ripple current

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

Temperature coefficient				
Temperature(°C) Rated Voltage(V)	+40	+55	+70	+85
<160	2.1	1.8	1.5	1
≥160	1.7	1.5	1.3	1

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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	10000	2.5	8200	2.2	5600	2.0	3300	1.8	2200	1.7	1500	1.6	1000	1.3	680	1.1
22x30	15000	3.2	10000	2.6	6800	2.3	3900	2.1	2700	1.9	2200	2.0	1200	1.5	820	1.2
22x35	18000	3.6	12000	2.9	8200	2.6	5600	2.3	3900	2.1	2700	2.2	1800	1.9	1200	1.6
22x40	22000	4.0	15000	3.3	10000	2.9	6800	2.9	4700	2.4	3300	2.3	2200	2.1	1500	1.8
22x45	--	--	18000	3.8	12000	3.3	--	--	--	--	3900	2.5	--	--	--	--
22x50	--	--	22000	4.2	--	--	8200	2.8	5600	2.5	--	--	2700	2.5	1800	2.1
25x25	15000	3.1	10000	2.6	6800	2.3	4700	2.2	2700	1.9	2200	2.0	1500	1.7	1000	1.4
25x30	18000	3.6	15000	3.3	10000	2.8	5600	2.3	3900	2.1	2700	2.3	1800	1.9	1200	1.6
25x35	22000	4.1	18000	3.7	12000	3.2	6800	2.6	4700	2.4	3300	2.3	2200	2.2	1500	1.7
25x40	--	--	22000	4.2	15000	3.7	8200	2.8	5600	2.5	3900	2.6	2700	2.5	1800	2.0
25x45	--	--	--	--	--	--	10000	3.1	6800	2.8	5600	3.1	3300	2.8	2200	2.2
25x50	--	--	--	--	18000	4.3	12000	3.5	8200	3.2	--	--	3900	3.1	2700	2.6
30x25	22000	4.1	15000	3.4	10000	3.0	6800	2.7	3900	2.4	3300	2.3	2200	2.2	1500	1.8
30x30	--	--	22000	4.2	12000	3.4	8200	2.8	5600	2.5	3900	2.6	2700	2.5	1800	2.1
30x35	--	--	--	--	18000	4.2	10000	3.2	6800	2.8	5600	3.2	3300	2.8	2200	2.3
30x40	--	--	--	--	22000	4.8	12000	3.5	8200	3.0	6800	3.6	3900	3.2	2700	2.7
30x45	--	--	--	--	--	--	15000	4.1	10000	3.4	--	--	4700	3.6	3300	3.0
30x50	--	--	--	--	--	--	18000	4.6	12000	3.8	8200	3.7	5600	3.5	3900	3.4
35x25	--	--	22000	4.4	15000	3.9	8200	2.9	5600	2.6	3900	2.7	2700	2.5	1800	2.2
35x30	--	--	--	--	18000	4.4	12000	3.6	8200	3.0	5600	3.3	3900	3.2	2200	2.5
35x35	--	--	--	--	22000	5.0	15000	4.1	10000	3.4	6800	3.7	4700	3.6	3300	3.1
35x40	--	--	--	--	--	--	18000	4.7	12000	3.8	8200	3.8	5600	3.5	3900	3.4
35x45	--	--	--	--	--	--	22000	5.3	--	--	10000	4.3	--	--	--	--
35x50	--	--	--	--	--	--	--	--	15000	4.5	12000	4.8	6800	4.4	4700	4.0

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WV(V) / □DxL (mm)	160		180		200		250		315		350		400		450	
	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	330	1.3	270	1.2	220	1.1	180	0.94	100	0.67	82	0.64	68	0.55	--	--
22x30	390	1.5	330	1.4	330	1.4	220	1.1	150	0.85	120	0.82	100	0.70	68	0.57
22x35	560	1.9	470	1.7	390	1.6	270	1.2	180	0.96	150	0.94	120	0.79	100	0.72
22x40	680	2.1	560	1.9	470	1.8	330	1.4	220	1.1	180	1.1	150	0.90	120	0.80
22x45	--	--	--	--	560	2.0	390	1.6	270	1.2	220	1.2	180	1.0	--	--
22x50	820	2.5	680	2.3	--	--	470	1.8	--	--	--	--	220	1.1	150	0.95
25x25	390	1.5	390	1.5	330	1.4	220	1.1	150	0.85	120	0.81	100	0.70	--	--
25x30	560	1.9	470	1.7	390	1.6	330	1.4	180	0.96	150	0.94	150	0.89	100	0.73
25x35	680	2.2	560	2.0	560	2.0	390	1.6	220	1.1	220	1.2	180	1.0	120	0.83
25x40	820	2.4	680	2.2	680	2.3	470	1.8	270	1.3	--	--	220	1.2	150	0.95
25x45	1000	2.7	820	2.5	--	--	560	2.0	330	1.4	270	1.4	270	1.3	180	1.1
25x50	1200	3.1	1000	2.9	820	2.6	--	--	390	1.6	330	1.6	--	--	220	1.2
30x25	560	2.0	470	1.8	470	1.9	330	1.5	220	1.1	180	1.1	150	0.95	--	--
30x30	820	2.5	680	2.3	560	2.1	470	1.8	270	1.3	220	1.2	180	1.1	150	0.98
30x35	1000	2.8	820	2.6	680	2.4	560	2.0	330	1.4	270	1.4	220	1.2	180	1.1
30x40	1200	3.2	1000	2.9	820	2.7	680	2.3	390	1.6	390	1.7	270	1.4	220	1.3
30x45	1500	3.7	1200	3.3	1000	3.1	820	2.6	470	1.8	470	2.0	330	1.6	270	1.4
30x50	--	--	--	--	1200	3.4	--	--	560	2.0	--	--	390	1.8	--	--
35x25	820	2.4	680	2.2	560	2.0	470	1.9	270	1.3	220	1.3	180	1.2	180	1.2
35x30	1000	2.7	820	2.5	820	2.5	680	2.4	390	1.6	330	1.6	270	1.5	220	1.3
35x35	1200	3.0	1200	3.1	1000	2.8	820	2.6	470	1.8	390	1.8	330	1.7	270	1.5
35x40	1500	3.5	--	--	1200	3.2	1000	3.0	560	2.0	470	2.0	390	1.8	--	--
35x45	1800	3.9	1500	3.6	--	--	1200	3.4	680	2.3	560	2.3	470	2.1	390	1.9
35x50	2200	4.5	1800	4.1	1500	3.8	--	--	--	--	680	2.6	560	2.3	470	2.2

Ripple Current: 85°C, 120Hz

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