

ALUMINUM ELECTROLYTIC CAPACITOR

Suntan®

GENERAL, MINIATURIZED

TS13D CD293



FEATURES

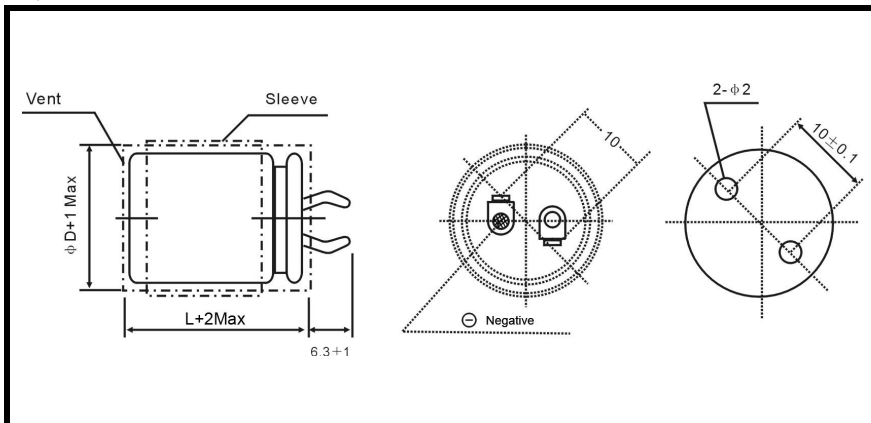
- Load life of 2000 hours at 85°C
- High ripple current
- Smaller size PCB Mounting

◆ Specifications

I T E M S	P E R F O R M A N C E	C H A R A C T E R I S T I C S
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)	When nominal capacitance is over 1000μF, tan δ shall be added 0.01 to the listed value with increase of every 1000μF.	
	Rated Voltage (V)	10 16 25 35 50 63 80 100 160~400 450
	Tan δ	0.40 0.35 0.35 0.30 0.25 0.25 0.20 0.20 0.15 0.20
Temperature Stability (120Hz)	Rated Voltage (V)	10 16~35 50~100 160~200 250~400 450
	Impedance	Z-25°C/Z+20°C 5 4 3 3 4 4
	Ratio	Z-40°C/Z+20°C 18 15 10 6 8 --
Load Life (+85°C)	Time	2000hours
	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 (+85°C)	Time	1000hours
	Leakage Current	Not more than the specified value.
	Capacitance Change	Within±15% of the initial value
	Dissipation Factor	Not more than 150% of the specified value.

After test: U_R to be applied for 60 minutes, 24 to 48 hours before measurement.

◆ 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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◆ STANDARD RATINGS

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.