AXIAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

Suntan®

105℃, 1000hours, 2 RUBBER TYPE

TS13AH

FEATURES

- 105°C, 1000 hours assured
- Voltage range of 6.3 ~ 450V
- Wide operating temperature range, from -40°C~ +105°C

ITEMS	CHARACTERISTIC
Operating Temperature Range	-40℃ ~ +105℃
Rated Voltage	6.3 ~ 100VDC / 160 ~ 450VDC
Capacitance Tolerance	±10%(K), ±20%(M)
(at 20°C,120Hz) Dissipation Factor (tanδ)	Add 0.02 per 1000μF for more than 1000μF

W.V	6.3	10	16	25	35	50	63
tan δ	0.23	0.20	0.17	0.15	0.12	0.10	0.09
W.V	100	160	200	250	350	400	450
tan δ	0.08	0.15	0.15	0.20	0.20	0.24	0.24

Leakage Current uA

I≦0.02CV or 3 (uA)Whichever is greater (after 2 minutes applying the rated DC working Voltage at 20 ℃)

I≦0.03CV+15 (uA) for CV≦1000,
I≦0.02CV+25 (uA) for CV>1000
(after 5 minutes applying the rated DC working Voltage at 20 ℃)

Where: I=Leakage Current (uA) , C=rated Capacitance (μF) , V= working Voltage (V)

(20°C) Surge Voltage

W.V	6.3	10	16	25	35	50	63
S.V	8	13	20	32	44	63	79
W.V	100	160	200	250	350	400	450
S.V	125	200	250	300	400	450	500

Low Temperature Stability

Impedance ratio at 120HZ

Rated Voltage (V)		6.3	10	16	25	35	50	63
Z(-25℃) /+20℃	∮ D<16	6	4	3	3	2	2	2
	∮ D≥16	8	6	4	4	3	3	3
Z(-40℃) /+20℃	∮ D<16	10	8	6	6	4	3	3
	∮ D≥16	18	16	12	10	8	8	6
Rated Voltage (V)		100	160	200	250	350	400	450
Z(-25℃) /+20℃	∮ D<16	2	3	6	8	12	14	16
	∮ D≥16	3						
Z(-40℃) /+20℃	∮ D<16	3	4	8	10	-	-	-
	∮ D≥16	6						

Load Life Test

After 1,000 hours application of rated voltage at 105°C, capacitors meet the characteristics requirements listed as below.

Capacitance Change	Within ±20% of initial value
Dissipation Factor	Less than 200% of specified value
Leakage Current	Within specified value

Shelf Life Test

After leaving capacitors under no load at 105°C for 1,000 hours and applying Voltage they meet the specified value for load life characteristics listed above.

Frequency Coefficient of Allowable Ripple Current

Freq.(Hz) / Cap.(μF)	60	120	500	1K	10K up
Under	0.70	1.00	1.30	1.40	1.50
100 to 1000	0.75	1.00	1.20	1.30	1.35
1000 up above	0.80	1.00	1.10	1.12	1.15

Allowable Ripple Current Vs Ambient Temperature

Temperature(℃)	Under 50	70	85	105
Multiplier	1.95	1.78	1.40	1.00

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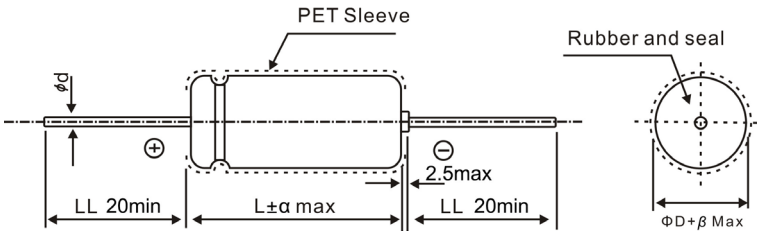
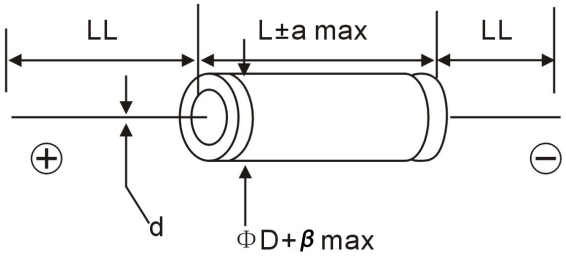
DIAGRAM OF DIMENSIONS

Unit:mm



LEAD DIAMETER

ØD	6.3	8	10	13	16	18	22	25
Ød	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.8
α	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
β	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0



DIMENSIONS: Diameter (DØ) x Length (L) mm

RIPPLE CURRENT. mA at 105℃, 120Hz

V.DC	6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)	
µF	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
10	--	--	--	--	--	--	6.3x13	39	6.3x13	44
22	--	--	--	--	6.3x13	60	6.3x13	63	6.3x13	65
33	--	--	--	--	6.3x13	73	6.3x13	75	6.3x13	96
47	--	--	6.3x13	78	6.3x13	85	6.3x13	90	6.3x13	114
100	6.3x13	102	6.3x13	110	6.3x13	145	8x13	166	8x16	180
220	6.3x13	167	8x13	180	8x13	231	8x16	246	10x17	305
330	8x16	236	8x16	253	8x16	323	10x17	345	10x21	391
470	8x16	281	8x16	302	10x17	359	10x21	432	10x21	490
1000	10x17	453	10x17	486	10x21	569	13x22	662	13x27	721
2200	13x22	740	13x22	793	13x27	926	16x28	1024	16x33	1177
3300	13x27	906	13x27	1015	16x28	1173	16x33	1300	18x40	1449
4700	13x27	1168	16x28	1252	16x33	1443	18x40	1638	22x40	1878

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

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RIPPLE CURRENT. mA at 85℃, 120Hz

V.DC	50V (1H)		63V (1J)		100V (2A)		160V (2C)		200V (2D)	
µF	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
1	6.3x13	10	6.3x13	17	6.3x13	17	6.3x13	7	6.3x13	9
2.2	6.3x13	20	6.3x13	32	6.3x13	32	6.3x13	15	8x13	16
3.3	6.3x13	30	6.3x13	34	6.3x13	34	8x16	21	8x16	26
4.7	6.3x13	34	6.3x13	37	6.3x13	37	8x16	31	10x17	33
10	6.3x13	50	6.3x13	55	6.3x13	64	10x17	60	10x21	66
22	6.3x13	75	6.3x13	90	8x16	106	10x21	121	13x22	121
33	6.3x13	105	8x13	123	10x17	150	13x22	154	13x27	167
47	8x13	140	8x16	162	10x21	180	13x27	198	16x33	214
100	10x17	225	10x17	248	13x22	287	16x33	345	16x33	368
220	10x21	349	13x22	420	16x28	458	18x40	586	22x40	609
330	13x22	450	13x27	495	16x33	582	22x40	632	--	--
470	13x22	561	13x27	632	16x36	713	--	--	--	--
1000	16x33	875	16x40	984	22x40	1148	--	--	--	--
2200	18x40	1408	22x40	1540	25x43	2310	--	--	--	--
3300	22x40	1724	25x43	1950	--	--	--	--	--	--
4700	25x41	1950	25x43	2290	--	--	--	--	--	--

V.DC	250V (2E)		350V (2V)		400V (2G)		450V (2W)	
µF	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
1	6.3x13	12	8x16	13	8x16	15	8x16	15
2.2	8x16	17	10x17	19	10x17	23	10x21	23
3.3	10x17	31	10x17	33	10x17	36	10x21	36
4.7	10x17	38	10x21	44	10x21	46	13x22	46
10	10x21	72	13x22	72	13x22	79	13x27	82
22	13x27	126	13x27	132	16x33	143	16x36	154
33	16x28	178	16x33	186	16x40	201	16x40	201
47	16x33	241	16x40	253	16x40	253	18x40	304
100	16x40	391	22x40	402	22x43	439	22x43	448
220	22x40	632	--	--	--	--	--	--

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