TEAPO

LEAD TYPE ALUMINUM ELECTROLYTIC CAPACITORS

SH Standard Series



■ Endurance: 105℃ 2000hours
■ Recommended Applications :For high quality , reliability application, high CV product
■ Corresponding product to RoHS

SH ↑ Long Life
SE

■ SPECIFICATIONS

Item	Characteristics		
Category Temperature Range	-40~+105℃	-25~+105℃	-25~+105℃
Rated Voltage Range	6.3 ~ 100VDC	160 ~ 450VDC	500VDC
Rated Capacitance Range	1~ 22000 μF	1 ~ 470 μF	2.2~82 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3(μA)whichever is greater.	I=0.03CV+10(μA)	I=0.04CV+100(uA)
	(After rated voltage applied for 2 minutes)I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)		

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	6.3	10	16	25	35	50	63~100	160~250	350~450	500
tan δ	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.15	0.20	0.25

When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	6.3	10	16	25	35~100	160~250	350~450	500
Z-25℃ / Z+20℃	4	3	2	2	2	4	4	6
Z-40℃ / Z+20℃	8	6	4	4	3	—	—	—

Endurance

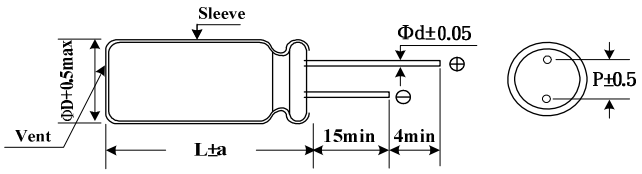
After applying rated voltage for 2000 hours at 105℃ the capacitors shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life

After leaving capacitors under no load at 105℃ for 1000 hours.the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



Notes：6.3~22Φ,L≧9mm&8x5,8x7have vent

L≦9mm:

φD	4	5	6	8
P	1.5	2.0	2.5	3.5
φd	0.45	0.45	0.45	0.45(0.5)
a	1.0	1.0	1.0	1.0

Notes：( ):L=7&9mm

L>9mm:

φD	5	6.3	8	10	13	16	18	22
p	2.0	2.5	3.5	5.0		7.5		10.0
φd	0.5	0.5	0.6	0.6		0.8		0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

■ Multiplier for Ripple Current

L≦9mm:

Freq. (Hz)	120	1K	10~100K
6.3 ~ 16V	1.00	1.10	1.20
25 ~ 63V	1.00	1.50	1.70

L>9mm:

Freq. (Hz)	120	300	1K	10K~100K
6.3 ~ 100V ≦68 μF	1.00	1.30	1.57	2.00
6.3 ~ 100V 100 ~ 470 μF	1.00	1.23	1.34	1.50
6.3 ~ 100V 471 ~ 22000 μF	1.00	1.10	1.13	1.15
160 ~ 450V all volume(μF)	1.00	1.25	1.40	1.60
500Vall volume(μF)	1.00	1.05	1.10	1.15

Product specifications in this catalog are subject to change without notice.Please refer to the website directory.

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	10	4x5	0.26	15
	22	4x5	0.26	25
	33	4x7	0.24	35
		5x5	0.26	30
	47	5x5	0.26	35
		5x7	0.24	50
	100	6.3x5	0.26	60
		5x7	0.24	70
		5x11	0.26	100
	150	5x11	0.26	120
	220	8x5	0.26	95
		6.3x7	0.24	110
		6.3x11	0.26	165
	330	8x5	0.26	120
		6.3x11	0.26	200
		8x7	0.24	150
	470	6.3x11	0.26	230
		8x9	0.24	200
	680	8x11	0.26	350
	1000	8x15	0.26	445
		10x12.5	0.26	470
	1500	10x15	0.26	600
	2200	10x20	0.26	800
	3300	13x20	0.26	1100
	4700	13x20	0.26	1180
	6800	13x25	0.26	1490
	10000	16x32	0.26	1830
	15000	16x36	0.26	2090
	22000	18x40	0.26	2350
10 (13)	10	4x5	0.24	20
	22	4x7	0.20	30
		5x5	0.24	25
	33	4x7	0.20	40
		5x5	0.24	35
	47	6.3x5	0.24	45
		5x7	0.20	60
		5x11	0.22	75
	68	5x11	0.22	80
	100	6.3x5	0.24	70
		5x11	0.22	110
		6.3x7	0.20	90
	150	5x11	0.22	120
	220	6.3x7	0.20	135
		6.3x11	0.22	180
	330	6.3x11	0.22	235
		8x9	0.20	160
		8x11	0.22	255
	470	6.3x11	0.22	250
		8x9	0.20	210
		8x11	0.22	305
	680	8x11	0.22	365
		10x12.5	0.22	420
	1000	8x15	0.22	480
		10x12.5	0.22	540
	1500	10x20	0.22	800
	2200	10x20	0.22	870
	3300	13x20	0.22	1100
	4700	13x25	0.22	1380
	6800	16x25	0.22	1700
	10000	16x36	0.22	1950
	15000	18x36	0.22	2180
16 (20)	2.2	4x7	0.18	10

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
16 (20)	3.3	4x7	0.18	10
	4.7	4x5	0.20	10
		4x7	0.18	15
	10	4x5	0.20	20
		4x7	0.18	25
	22	4x7	0.18	35
		5x5	0.20	30
	33	5x5	0.20	40
		5x7	0.18	50
		5x11	0.18	70
	47	6.3x5	0.20	55
		5x11	0.18	85
		6.3x7	0.18	70
	68	5x11	0.18	100
	100	6.3x5	0.2	90
		5x11	0.18	130
		6.3x7	0.18	110
	150	6.3x11	0.18	175
	220	6.3x11	0.18	220
		8x9	0.18	180
	330	8x9	0.18	210
		8x11	0.18	280
	470	8x11	0.18	375
	680	8x15	0.18	450
		10x12.5	0.18	480
	1000	10x15	0.18	640
	1500	10x20	0.18	830
	2200	13x20	0.18	1050
	3300	13x25	0.18	1250
	4700	16x25	0.18	1650
	6800	16x32	0.18	1900
	10000	18x36	0.18	2070
25 (32)	4.7	4x5	0.16	15
		4x7	0.15	20
	10	4x5	0.16	25
		4x7	0.15	30
	22	6.3x5	0.16	40
		5x7	0.15	50
		5x11	0.16	60
	33	6.3x5	0.16	50
		5x11	0.16	75
		6.3x7	0.15	65
	47	5x11	0.16	90
		6.3x7	0.15	70
	68	6.3x11	0.16	125
	100	6.3x11	0.16	145
		8x7	0.15	115
	150	8x11	0.16	200
	220	8x11	0.16	240
	330	8x11	0.16	300
		10x12.5	0.16	355
	470	8x15	0.16	420
		10x12.5	0.16	440
	680	10x15	0.16	560
	1000	10x20	0.16	740
	1500	13x20	0.16	920
	2200	13x25	0.16	1230
	3300	16x25	0.16	1500
	4700	16x32	0.16	1800
	6800	18x36	0.16	2050
35 (44)	4.7	4x5	0.13	15
		4x7	0.13	25

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35 (44)	10	4x7	0.13	35
		5x5	0.13	30
		5x11	0.14	44
	15	5x11	0.14	50
	22	6.3x5	0.13	45
		5x7	0.13	60
		5x11	0.14	65
	33	5x11	0.14	85
		6.3x7	0.13	70
	47	5x11	0.14	100
		8x7	0.13	80
	68	6.3x11	0.14	130
	100	6.3x11	0.14	170
		8x9	0.13	145
	150	8x11	0.14	220
	220	10x12.5	0.14	315
	330	10x12.5	0.14	400
	470	10x15	0.14	480
	680	10x20	0.14	650
	1000	13x20	0.14	900
	1500	13x25	0.14	1050
	2200	16x25	0.14	1370
	3300	16x36	0.14	1680
	4700	18x36	0.14	1920
50 (63)	1	4x5	0.12	10
		4x7	0.12	10
		5x11	0.12	12
	2.2	4x5	0.12	15
		4x7	0.12	20
		5x11	0.12	18
	3.3	4x5	0.12	15
		4x7	0.12	25
		5x11	0.12	25
	4.7	4x7	0.12	30
		5x5	0.12	20
		5x11	0.12	30
	6.8	5x11	0.12	30
	10	5x7	0.12	35
		6.3x5	0.12	35
		5x11	0.12	50
	15	5x11	0.12	50
	22	6.3x5	0.12	55
		5x11	0.12	75
		6.3x7	0.12	65
	33	5x11	0.12	95
		8x7	0.12	80
	47	6.3x11	0.12	115
		8x9	0.12	100
	68	8x11	0.12	159
	100	8x11	0.12	200
	150	10x12.5	0.12	289
	220	10x12.5	0.12	360
		10x15	0.12	415
	330	10x20	0.12	535
	470	10x20	0.12	630
		13x20	0.12	730
	680	13x20	0.12	800
	1000	13x25	0.12	1060
	1500	16x25	0.12	1300
	2200	16x36	0.12	1600
	3300	18x36	0.12	1780
63 (79)	10	5x11	0.1	55

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
63 (79)	10	6.3x7	0.10	50
	15	5x11	0.1	65
	22	6.3x11	0.1	90
	33	6.3x11	0.1	100
	47	8x11	0.1	155
	68	10x12.5	0.1	198
	100	10x12.5	0.10	260
	150	10x15	0.10	330
	220	10x20	0.10	465
	330	13x20	0.10	650
	470	13x20	0.10	700
	680	16x25	0.10	1000
	1000	16x32	0.10	1200
	1500	16x36	0.10	1450
	2200	18x36	0.10	1650
100 (125)	10	6.3x11	0.10	65
	15	6.3x11	0.10	75
	22	8x11	0.10	115
	33	8x11	0.10	140
	47	10x12.5	0.10	185
	68	10x15	0.10	240
	100	10x20	0.10	305
	150	13x20	0.10	370
	220	13x25	0.10	520
	330	16x25	0.10	720
	470	16x32	0.10	875
	680	16x36	0.10	1200
160 (200)	1	5x11	0.15	17
	2.2	6.3x11	0.15	25
	3.3	6.3x11	0.15	36
	4.7	6.3x11	0.15	43
	6.8	8x11	0.15	54
	10	8x11	0.15	70
	15	10x12.5	0.15	90
	22	10x15	0.15	115
	33	10x20	0.15	160
	47	10x20	0.15	195
	68	13x20	0.15	255
	100	13x25	0.15	350
	150	16x25	0.15	435
	220	16x32	0.15	550
	330	18x36	0.15	800
	470	18x40	0.15	900
200 (250)	1	6.3x11	0.15	17
	2.2	6.3x11	0.15	25
	3.3	6.3x11	0.15	36
	4.7	8x11	0.15	50
	6.8	8x11	0.15	60
	10	10x12.5	0.15	80
	15	10x15	0.15	110
	22	10x20	0.15	140
	33	13x20	0.15	200
	47	13x20	0.15	220
	68	13x25	0.15	280
	100	16x25	0.15	350
	150	16x32	0.15	480
	220	16x36	0.15	675
		18x32	0.15	685
	330	18x36	0.15	750
250 (300)	1	6.3x11	0.15	17
	2.2	6.3x11	0.15	29
	3.3	8x11	0.15	42

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250 (300)	4.7	8x11	0.15	52
	6.8	8x11	0.15	62
	10	10x12.5	0.15	80
	15	10x15	0.15	110
	22	10x20	0.15	140
	33	13x20	0.15	200
	47	13x25	0.15	240
	68	13x25	0.15	290
	100	16x25	0.15	380
	150	16x32	0.15	420
	220	18x36	0.15	680
350 (400)	1	6.3x11	0.20	16
	2.2	8x11	0.20	31
	3.3	8x11	0.20	35
	4.7	8x11	0.20	45
	10	10x15	0.20	80
	22	13x20	0.20	150
	33	13x25	0.20	200
	47	16x25	0.20	260
	100	18x32	0.20	400
400 (450)	1	6.3x11	0.20	17
	2.2	8x11	0.20	31
	3.3	8x11	0.20	35
	4.7	8x11	0.20	45
		10x12.5	0.20	55
	6.8	8x15	0.20	60
		10x12.5	0.20	65
	10.0	10x15	0.2	80
	15	10x20	0.2	100
	22	13x20	0.2	150
	33	13x25	0.2	200
	47	16x25	0.2	265
	68	16x32	0.2	410
		18x25	0.2	390
	100	18x32	0.2	500
	120	18x32	0.2	520
		18x36	0.2	550
	150	18x40	0.2	620
420 (470)	1	6.3x11	0.2	17
	2.2	8x11	0.2	29
	3.3	8x11	0.2	34
	4.7	10x12.5	0.2	55
	6.8	10x15	0.2	68
	10	10x20	0.20	98

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
420 (470)	15	13x20	0.20	130
	22	13x25	0.20	155
	33	16x25	0.20	205
	47	16x25	0.20	235
	68	16x32	0.20	400
		18x25	0.20	380
	100	18x36	0.20	490
	120	18x40	0.20	530
	150	18x45	0.20	570
450 (500)	1.0	6.3x11	0.20	18
		8x11	0.20	22
	2.2	8x11	0.20	30
		10x12.5	0.20	37
	3.3	8x15	0.20	42
		10x12.5	0.20	40
	4.7	10x12.5	0.20	52
	6.8	10x15	0.20	62
	10	10x20	0.20	85
	15	13x20	0.20	120
	22	13x25	0.20	150
	33	16x25	0.20	210
	47	16x25	0.20	260
	68	18x32	0.20	370
	100	18x36	0.20	495
	120	18x40	0.20	565
	150	18x45	0.20	650
500 (550)	2.2	8x11	0.25	25
	3.3	8x16	0.25	30
	4.7	8x16	0.25	34
		10x12.5	0.25	38
	6.8	10x16	0.25	50
	8.2	10x20	0.25	65
	10	10x20	0.25	70
		13x20	0.25	85
	15	13x25	0.25	100
	22	13x25	0.25	115
		16x25	0.25	130
	33	18x25	0.25	180
	47	16x32	0.25	180
		18x30	0.25	230
	68	18x32	0.25	250
		18x36	0.25	290
	82	18x40	0.25	335