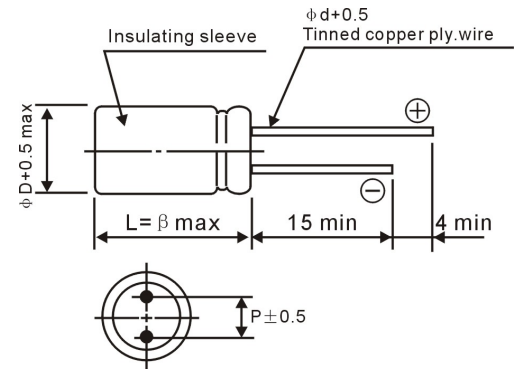
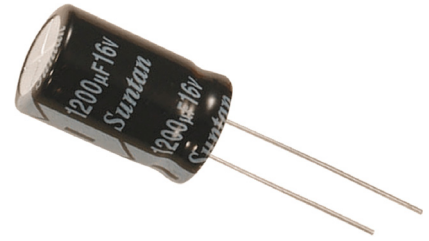


ALUMINUM ELECTROLYTIC CAPACITOR-GENERAL & MINIATURE *Suntan*[®]

STANDARD, HEIGHT 5 & 7 MM, 1000 HRS SERIES

TS13

- TSE11 Series – Standard Size
- TSE07 Series – Mini Size 7 mm height
- TSE05 Series – Super Mini Size 5 mm height



ITEMS		CHARACTERISTICS									
Operating temperature range		-40 ~ +85°C									
Leakage current max.		I=0.01CV or 4 μA whichever is greater (after 1 minute)									
Capacitance tolerance		±20% at 120Hz, 20°C									
Dissipation factor max. (at 120Hz, 20°C)	MV	4	6.3	10	16	25	35,40	50	63		
	tan δ	0.36	0.24	0.20	0.16	0.14	0.12	0.10	0.10		

WV μF	4	6.3	10	16	25	35	50	63	100
0.1							5x11 4x7 3x5	5x11	5x11
0.22							5x11 4x7 3x5	5x11	5x11
0.33	Case size Ø DxL (mm) →						5x11 4x7 3x5	5x11	5x11
0.47							5x11 4x7 3x5	5x11	5x11
1.0							5x11 4x7 3x5	5x11	5x11
2.2						3x5	5x11 4x7 3x5	5x11	5x11
3.3					3x5	4x5	5x11 4x7 4x5	5x11	5x11
4.7				3x5	4x7 3x5	4x7 4x5	5x11 4x7 4x5	5x11	5x11
10		3x5	4x5	4x7 4x5	5x7 5x5	4x7 5x5	5x11 5x7 6.3x5	5x11	6.3x11
22	3x5	3x5	5x5	5x5	6.3x5	6.3x5	5x11 6.3x7	6.3x11	8x12
33	4x5	5x5	5x5	5x7 6.3x5	5x7 6.3x5	5x7 6.3x7	6.3x11	6.3x11	10x12.5
47	4x7 4x5	4x7 6.3x5	4x7 6.3x5	5x11 5x7 6.3x5	5x11 6.3x7	6.3x11	6.3x11	8x12	10x16
100	4x7 5x5	5x7	5x7	5x11 6.3x11	6.3x11	8x12	8x12	10x12.5	13x21
220	6.3x7 6.3x5	6.3x11 6.3x7	6.3x11 6.3x7	8x12	8x12	10x12.5	10x16	10x20	16x25

TS13-TSE11

■ Case size table

∅D	5	6	8	10	12	13	16	18	22	26
F	2.0	2.5	3.5	5.0			7.5		10.0	12.5
d	0.5			0.6			0.8		1.0	
a	1.0			1.5				2.0		

◆ Nominal capacitance, rated voltage and case size table

DxL mm μF	WV 6.3	10	16	25	35	50	63	100
0.1	--	--	--	--	--	5x11	5x11	5x11
0.15	--	--	--	--	--	5x11	5x11	5x11
0.22	--	--	--	--	--	5x11	5x11	5x11
0.33	--	--	--	--	--	5x11	5x11	5x11
0.47	--	--	--	--	--	5x11	5x11	5x11
0.68	--	--	--	--	--	5x11	5x11	5x11
1	--	--	--	--	--	5x11	5x11	5x11
1.5	--	--	--	--	--	5x11	5x11	5x11
2.2	--	--	--	--	--	5x11	5x11	5x11
3.3	--	--	--	--	--	5x11	5x11	5x11
4.7	--	--	--	--	--	5x11	5x11	5x11
6.8	--	--	--	5x11	5x11	5x11	5x11	6x11
10	--	5x11	5x11	5x11	5x11	5x11	5x11	6x11
22	--	5x11	5x11	5x11	5x11	5x11	6x12	8x11
33	5x11	5x11	5x11	5x11	6x12	6x12	8x12	10x14
47	5x11	5x11	5x11	5x11	6x12	8x12	8x12	10x14
68	5x11	5x11	5x11	6x12	6x12	8x12	8x12	12x21
100	5x11	5x11	5x11	6x12	8x12	8x12	8x12	12x21
220	5x11	6x12	6x12	8x12	8x16	10x17	10x20	13x24
330	8x12	8x12	8x12	8x16	8x17	10x20	13x21	16x30
470	8x12	8x12	8x14	8x16	10x17	13x21	13x21	16x30
680	8x12	8x16	10x17	10x20	13x26	16x26	16x31	--
1000	8x14	8x16	10x17	10x20	13x26	16x26	16x31	--
2200	10x16	10x20	13x21	13x26	16x26	18x36	--	--
3300	12x21	13x21	13x26	16x26	16x36	18x36	--	--
4700	13x24	13x26	16x26	16x36	18x36	22x42	--	--
6800	16x26	16x26	16x32	18x36	--	--	--	--
10000	16x36	--	18x40	22x38	--	--	--	--

Case size of the products can be changed according to customer's requirement

TS13-TSE11

◆ Nominal capacitance, rated voltage and case size table

DxL μF	WV mm	160	200	250	350	400
0.1		--	--	--	--	--
0.15		--	--	--	--	--
0.22		--	--	--	--	--
0.33		--	--	--	--	--
0.47		--	--	--	6x11	6x11
0.68		--	--	--	6x11	6x11
1		5x11	6x11	6x12	6x11	6x11
1.5		6x11	6x11	8x12	6x12	8x12
2.2		6x11	6x11	8x12	8x12	8x12
3.3		6x12	8x11	8x16	10x12	10x12
4.7		8x11	8x12	8x16	10x16	10x14
6.8		8x12	10x12	10x16	10x16	10x20
10		8x12	10x16	10x16	10x20	10x20
15		10x16	10x16	12x21	12x21	13x24
22		10x16	10x20	12x21	13x24	13x24
33		12x24	13x21	16x26	16x26	16x26
47		12x24	13x24	16x26	16x31	16x36
68		13x24	13x24	18x32	16x35	18x36
100		16x26	16x26	18x32 18x40	18x40	22x30
150		18x30	18x32	--	26x50	25x40
220		18x36	18x36	--	--	30x40
330		18x40	22x35	--	--	35x45
470		22x46	26x40	--	--	35x60
680		--	--	--	--	--
1000		--	--	--	--	--
1500		--	--	--	--	--
2200		--	--	--	--	--
3300		--	--	--	--	--
4700		--	--	--	--	--
6800		--	--	--	--	--
10000		--	--	--	--	--

Case size of the products can be changed according to customer's requirement

TS13-TSE07

■ Case size table

∅D	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.5	0.5	
α	1.0			

◆ Nominal capacitance, rated voltage and case size table

DxL μF	WV mm	4	6.3	10	16	25	35	50
0.1		--	--	--	--	--	--	4x7
0.15		--	--	--	--	--	--	4x7
0.22		--	--	--	--	--	--	4x7
0.33		--	--	--	--	--	--	4x7
0.47		--	--	--	--	--	--	4x7
0.68		--	--	--	--	--	--	4x7
1.0		--	--	--	--	--	--	4x7
1.5		--	--	--	--	--	--	4x7
2.2		--	--	--	--	--	--	4x7
3.3		--	--	--	--	--	--	4x7
4.7		--	--	--	--	--	4x7	4x7
6.8		--	--	--	--	--	4x7	4x7
10		--	--	--	4x7	4x7	4x7	5x7
15		--	--	--	4x7	4x7	5x7	6.3x7
22		--	4x7	4x7	4x7	4x7	5x7	8x9
33		4x7	4x7	4x7	4x7	5x7	6.3x7	--
47		4x7	4x7	4x7	5x7	6.3x7	6.3x7	--
68		4x7	4x7	4x7	5x7	6.3x7	--	--
100		4x7	4x7(5x7)	5x7	6.3x7	8x9	--	--
220		5x7	6.3x7	6.3x7	--	--	--	--

Case size of the products can be changed according to customer's requirement

TS13-TSE05

■ Case size table

ØD	4	5	6.3	8
F	1.5	2.0	2.5	3.5
d	0.45	0.45	0.45	0.45
a	1.0			1.5

◆ Nominal capacitance, rated voltage and case size table

DxL μF	WV mm	4	6.3	10	16	25	35	50
0.1		--	--	--	--	--	--	4x5
0.22		--	--	--	--	--	--	4x5
0.33		--	--	--	--	--	--	4x5
0.47		--	--	--	--	--	--	4x5
0.68		--	--	--	--	--	--	4x5
1.0		--	--	--	--	--	--	4x5
2.2		--	--	--	--	--	--	4x5
3.3		--	--	--	--	--	4x5	4x5
4.7		--	--	--	--	4x5	4x5	5x5
6.8		--	--	--	--	4x5	5x5	5x5
10		--	4x5	4x5	4x5	4x5	5x5	6.3x5
22		4x5	4x5	4x5	4x5	5x5	6.3x5	--
33		4x5	5x5	5x5	5x5	6.3x5	--	--
47		4x5	5x5	6.3x5	6.3x5	8x5	--	--
68		5x5	6.3x5	6.3x5	6.3x5	--	--	--
100		5x5	6.3x5	8x5	8x5	--	--	--
220		6.3x5	8x5	--	--	--	--	--
330		8x5	8x5	--	--	--	--	--

Case size of the products can be changed according to customer's requirement

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