

## CHIP TYPE SERIES

# TS13C7

### FEATURES

- Endurance : 105°C 3000~5000H
- Designed for reflow soldering
- Designed for surface mounting on high-density PCB



Fig 1



Fig 2



Fig 3

## 3000~5000H Load Life Assurance

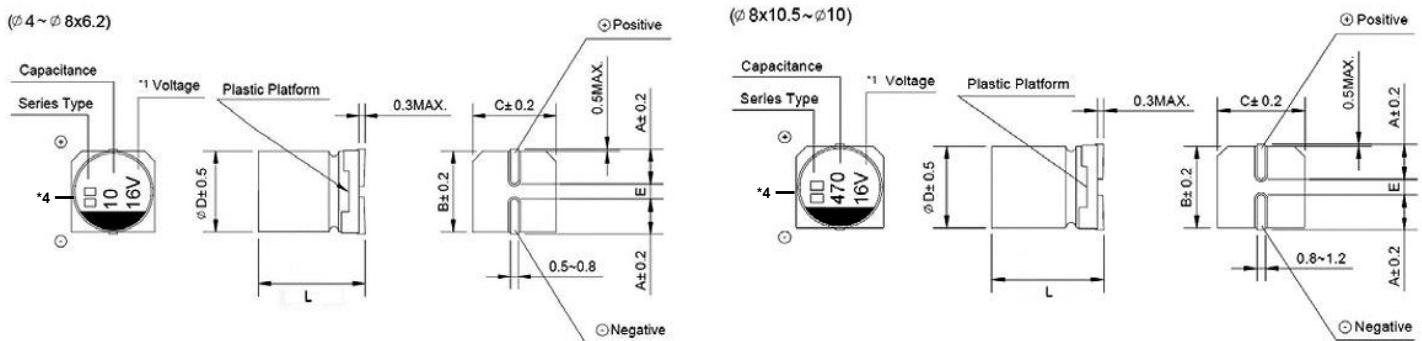
Note: Fig 1 & 2: Diameter 4 ~10mm

Fig 3 : Diameter: ≥12.5mm

### ◆ Specifications

I T E M S		C O N D I T I O N S		S P E C I F I C A T I O N S								
Rated voltage (V)	-	-	-	6.3	10	16	25	35	50	63	80	100
Surge voltage (V)	Room temperature	-	-	7.3	11.5	18.4	28.8	40.3	57.5	72.5	92	115
Category temperature range (°C)	-	-	-	-55 to +105								
Capacitance tolerance (%)	120Hz/20°C	-	-	M : ±20								
Dissipation Factor (Tan δ)	tanδ (max) 120Hz/20°C	Ø4~Ø10	-	0.32	0.26	0.20	0.18	0.16	0.14	0.14	0.16	0.14
		Ø12.5~Ø16	-	0.42	0.38	0.32	0.28	0.22	0.18	0.16	0.16	0.16
Leakage current (LC)	µA/after 2minutes (max)	-	-	The greater value of either 0.01CV or 3µA								
Impedance ratio at low temperature	Based on the value at 120Hz, +20°C	-25°C	Z/Z20°C	7	4	3	2	2	2	2	3	3
		-55°C	Z/Z20°C	15	8	6	4	4	4	3	3	3
Endurance	After applying rated working voltage for 3000/5000 hours at +105°C ±2°C, and then being stabilized at +20°C, capacitors shall meet the following limits.	Test Time	-	φD ≦ 6.3mm: 3000H, φD ≧ 8mm: 5000H								
		ΔC/C	-	Within ±30% of the initial value								
		tanδ	-	Less than 300% of the specified value								
		LC	-	Within the initial limit								
Shelf life	-	-	-	After storage for 1000 h at +105°C ± 2°C with no voltage applied and then being stabilized at +20°C, capacitors shall meet the limits specified in endurance.								
Resistance to soldering heat	After reflow soldering and then being stabilized at +20°C, capacitors shall meet the following limits.	ΔC/C	-	Within ±10% of the initial value								
		tanδ	-	Within the initial limit								
		LC	-	Within the initial limit								

### ◆ DRAWING (Unit:mm)



\*1 Voltage mark for 6.3V is [6V] or [6.3V]

\*4 Markings: Su7, S7, KL

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◆ DIMENSIONS(Unit:mm)

ØD×L	4×5.8	5×5.8	6.3×5.8	6.3×7.7	8×10.5	10×10.5	10×13.5	12.5×13.5	12.5×16	16×16.5
A	2.0	2.2	2.6	2.6	3.0	3.3	3.3	4.7	4.7	5.5
B	4.3	5.3	6.6	6.6	8.3	10.3	10.3	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.3	10.3	10.3	13.0	13.0	17.0
E±0.2	1.0	1.3	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.4
L	5.8±0.6	5.8±0.6	5.8±0.6	7.7±0.6	10.5±0.6	10.5±0.6	13.5±1.0	13.5±1.0	16.0±1.0	16.5±1.0

◆ DIMENSIONS&MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV Cap.(µF)		6.3		10		16		25		35	
		0J		1A		1C		1E		1V	
4.7	4R7	--	--	--	--	--	--	--	--	4×5.8	16
10	100	--	--	--	--	4×5.8	18	5×5.8	27	5×5.8	27
22	220	4×5.8	22	5×5.8	30	5×5.8	30	6.3×5.8	44	6.3×5.8	44
33	330	5×5.8	35	5×5.8	35	6.3×5.8	48	6.3×5.8	50	6.3×7.7	57
47	470	5×5.8	38	6.3×5.8	50	6.3×5.8	50	6.3×7.7	63	8×10.5	92
100	101	6.3×5.8	69	6.3×7.7	80	6.3×7.7	81	8×10.5	116	10×10.5	151
150	151	--	--	8×10.5	125	--	--	--	--	--	--
220	221	6.3×7.7	101	8×10.5	140	8×10.5	141	10×10.5	290	10×10.5	320
330	331	8×10.5	141	10×10.5	290	10×10.5	290	10×10.5	320	12.5×13.5	320
470	471	10×10.5	320	10×10.5	320	10×10.5	320	12.5×13.5	400	12.5×13.5	350
1000	102	10×10.5	410	10×13.5	390	12.5×13.5	550	--	--		
1500	150	12.5×13.5	500	12.5×13.5	500	12.5×13.5	600	--	--		
2200	222	12.5×13.5	600	12.5×13.5	600	--	--	--	--	Case Size	Ripple Current

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WV Cap.(μF)		50		63		80		100	
		1H		1J		1K		2A	
1.0	010	4×5.8	8	--	--	--	--	--	--
2.2	2R2	4×5.8	12	--	--	--	--	--	--
3.3	3R3	4×5.8	17	--	--	--	--	--	--
4.7	4R7	5×5.8	22	--	--	--	--	6.3×7.7	40
10	100	6.3×5.8	32	6.3×7.7	45	--	--	8×10.5	55
22	220	6.3×7.7	58	8×10.5	65	--	--	10×10.5	70
33	330	8×10.5	130	10×10.5	80	--	--	10×10.5	80
47	470	8×10.5	141	10×10.5	110	--	--	12.5×13.5	150
100	101	10×10.5	160	12.5×13.5	150	12.5×13.5	180	12.5×13.5	220
150	151	--	--	--	--	12.5×13.5	220	--	--
220	221	12.5×13.5	280	12.5×13.5	240	--	--	Case Size	Ripple Current

Case Size ØD×L(mm), ripple current(mA rms) at 105°C 120Hz

◆ Frequency coefficient of allowable ripple current

Frequency: F(Hz)		50Hz	120Hz	1kHz	10kHz ≦
Capacitance: C(μF)	C ≦ 1000μF	0.70	1.00	1.20	1.30
	C > 1000μF	0.85	1.00	1.10	1.15

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