

## CHIP TYPE SERIES

# TS13CV

### FEATURES

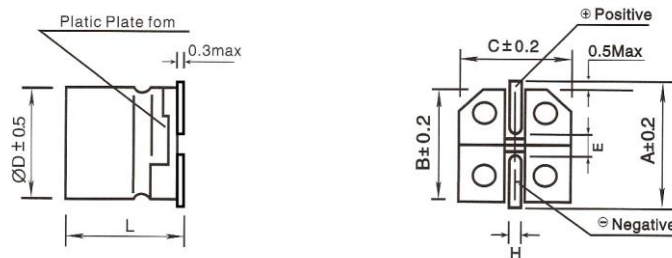
- Case diameter  $\phi 6.3\text{mm} \sim \phi 10\text{mm}$ .
- Life time 105°C 3000hrs standard product.
- High stability and reliability.
- Available for high density surface mounting.
- Reflow soldering is available.



### ◆ Specifications

ITEMS PERFORMANCE CHARACTERISTICS			
Operating Temperature Range	-40°C ~ +105°C		
Rated Voltage Range	160 ~ 450V.DC		
Capacitance Range	1~22 $\mu\text{F}$		
Capacitance Tolerance	$\pm 20\%$ at 120Hz, 20°C		
Leakage Current (Max)	I = 0.04CV ( $\mu\text{A}$ ) + 100 ( $\mu\text{A}$ ) after 2 minutes I = Leakage Current ( $\mu\text{A}$ ) C = Nominal Capacitance ( $\mu\text{F}$ ) V = Rated Voltage (V)		
Dissipation Factor (Max) Tan $\delta$ (20°C, 120Hz)	Rated Voltage (V)	160 ~ 200	250 ~ 400
	Tan $\delta$	0.20	0.25
Load Life	In 105°C degrees Celsius environment, continuous application of rated voltage for 3000 hours, after 16 hours was measured at room temperature, the capacitors shall meet the following requirements :		
	Capacitance Change	Within $\pm 30\%$ of the initial value	
	Dissipation Factor	Not more than 300% of the specified value	
	Leakage Current	Not more than the specified value	
Shelf Life	After storage for 1000hrs at 105°C, then resumed 16 hours, the capacitors shall meet the following requirements		
	Capacitance Change	Within $\pm 30\%$ of the initial value	
	Dissipation Factor	Not more than 300% of the specified value	
	Leakage Current	Within 300% of initial specified value	
Resistance to Soldering Heat	The capacitors shall be kept on then hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the following requirement:		
	Capacitance Change	Within $\pm 10\%$ of initial value	
	Dissipation Factor	Not more than the initial specified value	
	Leakage Current	Not more than the initial specified value	
Low Temperature Stability Impedance Ratio (MAX) 120Hz	Rated Voltage (V)	160 ~ 200	250 ~ 400
	Z-25°C / Z+20°C	6	10
	Z-55°C / Z+20°C	8	12
			450

### ◆ Drawing (Unit: mm)



ΦD	L	A	B	C	E	H
6.3	10.2 ± 0.3	7.2	6.6	6.6	2.1	0.5 ~ 0.9
8	10.5 ± 0.5	9.1	8.3	8.3	3.1	0.8 ~ 1.1
8	12.5 ± 0.5	9.1	8.3	8.3	3.1	0.8 ~ 1.1
10	10.5 ± 0.5	11.1	10.3	10.3	4.5	0.8 ~ 1.1
10	12.5 ± 0.5	11.1	10.3	10.3	4.5	0.8 ~ 1.1

# TS13CV

### ◆ Standard size

WV	160			200			250			400			450		
μF	DxL	Tan δ	mA	DxL	Tan δ	mA	DxL	Tan δ	mA	DxL	Tan δ	mA	DxL	Tan δ	mA
1	--	--	--	--	--	--	6.3x10.5	0.25	9	6.3x10.5	0.25	8	8x10.5	0.30	13
1.5	--	--	--	--	--	--	6.3x10.5	0.25	12	6.3x10.5	0.25	10	8x10.5	0.30	16
2.2	--	--	--	--	--	--	6.3x10.5	0.25	14	6.3x10.5	0.25	12	8x10.5	0.30	18
3.3	--	--	--	--	--	--	6.3x10.5	0.25	16	8x10.5	0.25	18	8x12.5	0.30	22
4.7	--	--	--	8x10.5	0.20	22	8x10.5	0.25	23	8x10.5	0.25	28	10x10.5	0.30	32
5.6	--	--	--	8x10.5	0.20	24	8x10.5	0.25	25	8x12.5	0.25	34	10x12.5	0.30	43
6.8	6.3x10.5	0.20	24	8x10.5	0.20	27	8x10.5	0.25	27	10x10.5	0.25	40	10x12.5	0.30	48
8.2	8x10.5	0.20	32	8x10.5	0.20	30	10x10.5	0.25	33	10x12.5	0.25	47	--	--	--
10	8x10.5	0.20	39	8x12.5	0.20	34	10x10.5	0.25	41	10x12.5	0.25	53	--	--	--
12	8x10.5	0.20	42	8x12.5	0.20	37	10x10.5	0.25	45	--	--	--	--	--	--
15	10x10.5	0.20	50	10x10.5	0.20	48	10x12.5	0.25	60	--	--	--	--	--	--
22	10x12.5	0.20	57	--	--	--	--	--	--	--	--	--	--	--	--

Rated ripple current (mA, 105°C, 120Hz)

### ◆ Frequency coefficient

Frequency	120Hz	1kHz	10kHz	120kHz
Coefficient	1.00	1.25	1.40	1.60

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