

## TCP 85°C 3000H, High Voltage, Long life SMD Electrolytic Capacitor

Operating with wide temperature range -40~+85°C

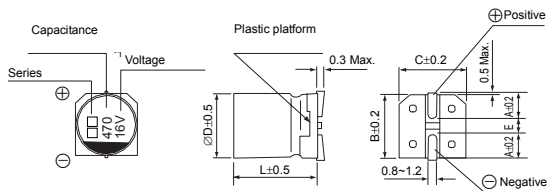
Load life of 3000 hours

RoHS & REACH compliant, Halogen-free

### SPECIFICATIONS

Items	Characteristics			
Operation Temperature Range	-40 ~ +85°C			
Voltage Range	160 ~ 450V			
Capacitance Range	3.3 ~ 100μF			
Capacitance Tolerance	±20% at 120Hz, 20°C			
Leakage Current	Leakage current ≤0.04CV + 100μA, whichever is greater (after 2 minutes application of rated voltage at 20°C) C: Nominal capacitance (μF), V: Rated voltage (V)			
Dissipation Factor (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C			
	Rated Voltage (V)	160 ~ 250	400, 500	
Stability at Low Temperature	Measurement frequency : 120Hz			
	Rated Voltage (V)	160 ~ 250	400, 500	
	Impedance Ratio	Z(-25°C) / Z(20°C)	2	4
	ZT/Z20 (max.)	Z(-40°C) / Z(20°C)	6	10
Load Life	After 3000 hours application of the rated voltage at 85°C, they meet the characteristics listed below.			
	Capacitance Change	Within ±20% of initial value		
	Dissipation Factor	200% or less of initial specified value		
	Leakage Current	initial specified value or less		
Shelf Life	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for load life characteristics listed above.			
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below.			
	Capacitance Change	Within ±10% of initial value		
	Dissipation Factor	initial specified value or less		
	Leakage Current	initial specified value or less		
Marking	Black print on the case top.			

### DRAWING (Unit: mm)



• A pressure relief vent is attached to products over  $\varnothing D=12.5$

### DIMENSIONS (Unit: mm)

∅D x L	10 x 13.5	12.5 x 13.5	12.5 x 16	16 x 16.5
A	3.3	4.9	4.9	5.8
B	10.4	13.0	13.0	17.0
C	10.4	13.0	13.0	17.0
E ± 0.2	4.7	4.7	4.7	6.4
L	13.5	13.5	16.0	16.5

### DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF	WV Code	160		200		250		350	
		Case size	Ripple current	Case size	Ripple current	Case size	Ripple current	Case size	Ripple current
4.7	475					10 × 13.5	65	10 × 13.5	85
10	106			10 × 13.5	75	10 × 13.5	75	12.5 × 13.5	105
22	226	10 × 13.5	50	12.5 × 13.5	105	12.5 × 13.5	105	16 × 16.5	130
33	336	12.5 × 13.5	95	12.5 × 13.5	120	16 × 16.5	135		
47	476	12.5 × 13.5 (16 × 16.5)	205 (240)			16 × 16.5	220		
100	107	16 × 16.5	250						

μF	WV Code	400		450	
		Case size	Ripple current	Case size	Ripple current
3.3	335	8 × 13.5 (10 × 13.5)	35 (40)	8 × 13.5 (10 × 13.5)	35 (40)
4.7	475	10 × 13.5	45	10 × 13.5	42
10	106	12.5 × 13.5	50	12.5 × 13.5	55
22	226	16 × 16.5	85	16 × 16.5	85

•Case size ØD×L(mm), ripple current (mA rms) at 85°C, 120Hz

### FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	0.75	1.00	1.35	1.57	2.00

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5~10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

### ◆ How to order

<u>TCP</u>	<u>A</u>	<u>106</u>	<u>M</u>	<u>0160</u>	<u>1013</u>	<u>R</u>	<u>000</u>
<b>Type</b>	<b>Material Code</b>	<b>Capacitance Code</b>	<b>Tolerance</b>	<b>Rated Voltage</b>	<b>Size Code</b>	<b>Package Code</b>	<b>Suffix Indicate Special Requirement</b>
TCP	<b>A: Aluminum Cap</b> For TCS, TCK TFZ TKZ....etc.	<b>pF Code: 1st two digits</b> represent significant figures 3rd digit represents multiplier (number of zeros to follow) 106 = 10uF 107 = 100uF	<b>M: +/-20%</b>	<b>Code 0160: 160VDC</b> <b>For DC Voltage</b> 0160: 160VDC 0250: 250VDC 0400: 400VDC	<b>Code 1013: Size 10x13.5mm</b> <b>Size for V-chip E-cap</b> 0813: Size 8.x13.5mm 1013: Size 10x13.5mm 1213: Size 12.5x13.5mm	<b>R: Tape &amp; Reel</b>	<b>000: Indicating Standard</b>