

## TUR/TSR Series

### Key Features

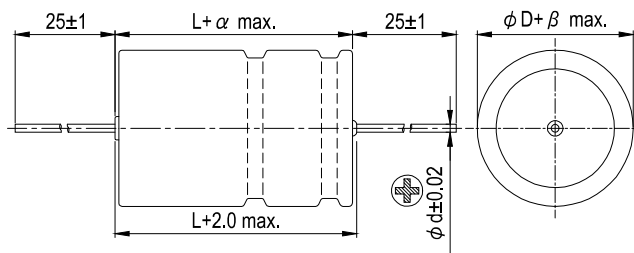
- High vibration resistance
- High ripple current capability
- Low ESR
- Useful life 3,000 hours at 125°C
- Shelf life up to 15 years at a storage temperature of 30°C
- RoHS compliance

### Specifications

Rated Voltage $V_R$	25 ~ 40 V <sub>DC</sub>	
Surge Voltage $V_S$	1.15 · $V_R$	
Rated Capacitance $C_R$	1,400 ~ 10,000 $\mu$ F	at 100 Hz, 20°C
Capacitance Tolerance	-10% ~ +30%	
Leakage Current $I_{leak}$ (at 20°C)	$I_{leak} \leq 0.006 \mu A \cdot CV + 4 \mu A$ C = Rated capacitance in $\mu$ F, V = Rated DC working voltage in V After 5 minutes	
Useful Life 125°C: $V_R, I_{AC, R}$	3,000 Hrs	Requirements: Cap.: Within $\pm$ 30% of initial value ESR: Within 300% of specified value $I_{leak}$ : Within initial specified limit
Voltage Endurance Test 125°C: $V_R$	2,000 Hrs	Requirements: Cap.: Within $\pm$ 10% of initial value ESR: Within 130% of specified value $I_{leak}$ : Within initial specified limit
Vibration Resistance	The wires of the Axial-lead capacitor should be mounted at a distance of (6 $\pm$ 1) mm from its body, which is additionally clamped. Soldering star capacitors should be mounted in a upright position and its terminals should be firmly soldered to the PCB and body additionally clamped. Vibration test according to IEC 60068-2-6, test Fc: Frequency range 10 Hz ~ 2 KHz, max. displacement amplitude 1.5 mm, max. acceleration 20 g, in total 6 hours (3*2 hours).	
Detail Specification Sectional Specification	Similar to CECC 30301-802 IEC 60384-4	

### Product Dimensions

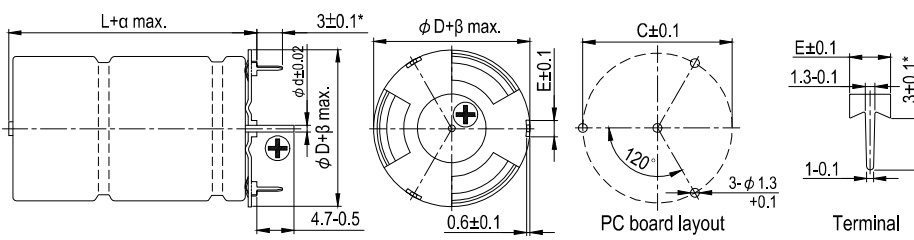
#### TUR Series



Unit: mm

$\phi D$	16	18	21
$\phi d$	1.0		
$\alpha$	0.5		
$\beta$	0.5		

#### TSR Series



Unit: mm

$\phi D$	16	18	21
C	16.5	18.5	21.5
E	3.1		3.6
$\phi d$	1.0		
$\alpha$	2.5		
$\beta$	1.2		



## Characteristics and Permissible Ripple Current

Working Voltage (V <sub>DC</sub> )	Capacitance 100 Hz, 20°C (μF)	φ D×L (mm)	ESR <sub>max</sub> 100 Hz, 20°C (Ω)	ESR <sub>max</sub> 10k Hz, 20°C (Ω)	Imp. <sub>max</sub> 100k Hz, 20°C (Ω)	I <sub>AC,R</sub> 10k Hz, 125°C (A <sub>rms</sub> )	Axial-lead Part Number	Soldering star Part Number
<b>25</b>	2,400	18 × 25	0.052	0.032	0.031	3.1	TUR242Q1EAL-1825	TSR242Q1ESS-1825
	2,500	16 × 30	0.059	0.039	0.037	2.6	TUR252Q1EAL-1630	TSR252Q1ESS-1630
	3,300	18 × 30	0.039	0.024	0.023	3.8	TUR332Q1EAL-1830	TSR332Q1ESS-1830
	3,600	16 × 39	0.042	0.028	0.027	3.4	TUR362Q1EAL-1639	TSR362Q1ESS-1639
	4,700	18 × 39	0.028	0.017	0.017	5.1	TUR472Q1EAL-1839	TSR472Q1ESS-1839
	7,200	21 × 39	0.022	0.014	0.014	5.4	TUR722Q1EAL-2139	TSR722Q1ESS-2139
	10,000	21 × 49	0.016	0.011	0.011	6.8	TUR103Q1EAL-2149	TSR103Q1ESS-2149
<b>40</b>	1,400	16 × 30	0.072	0.038	0.037	2.6	TUR142Q1GAL-1630	TSR142Q1GSS-1630
	1,800	16 × 35	0.057	0.031	0.030	3.0	TUR182Q1GAL-1635	TSR182Q1GSS-1635
	1,800	18 × 30	0.050	0.024	0.023	3.8	TUR182Q1GAL-1830	TSR182Q1GSS-1830
	2,000	16 × 39	0.051	0.027	0.027	3.4	TUR202Q1GAL-1639	TSR202Q1GSS-1639
	2,600	18 × 39	0.035	0.017	0.017	5.1	TUR262Q1GAL-1839	TSR262Q1GSS-1839
	3,900	21 × 39	0.027	0.014	0.014	5.4	TUR392Q1GAL-2139	TSR392Q1GSS-2139
	5,100	21 × 49	0.021	0.011	0.011	6.8	TUR512Q1GAL-2149	TSR512Q1GSS-2149

## Part Numbering System

TUR series    1,400 μF    -10% ~ +30%    40V    Axial-lead    16 φ x30L    Pb-free Terminal

**TUR**    **142**    **Q**    **1G**    **AL**    **:**    **1630**

Series name    Capacitance    Capacitance tolerance    Rated voltage    Lead forming    Sealing type    Case size    Lead wire and marking type

Note: Please refer to "Part Numbering System" section on page 1 for more details.