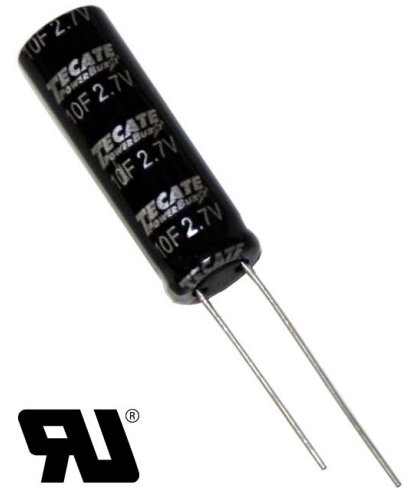


**FEATURES**

- Small size and low resistance
- Quick charge and discharge
- RoHS compliant
- UL recognized

**APPLICATIONS**

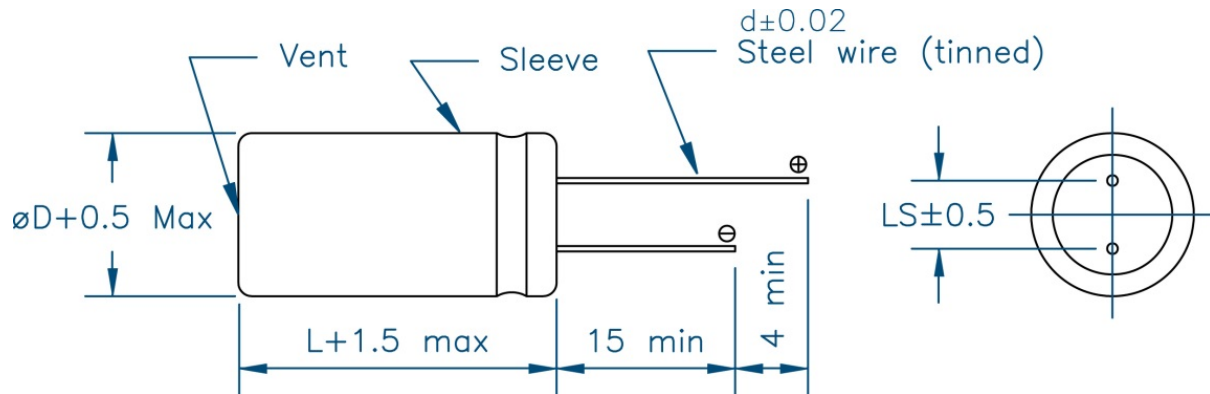
- Pulse power demand
- Hybrid battery packs
- Portable electronic devices



**GENERAL SPECIFICATIONS**

Item	Performance
Operating temperature	-40°C to +65°C @ 2.7V -40°C to +85°C @ 2.3V
Storage temperature	-40°C to +70°C
Capacitance	15F
Capacitance tolerance	-10/+20%
Rated voltage	2.7V/2.3V
Surge voltage	2.85V
Temperature characteristics	Capacitance change: Within ±5% of initial measured value at +25°C (-40°C to +65°C) Internal resistance: Within ±50% of initial measured value at +25°C (at -40°C)
Endurance (At rated voltage & max. operating temp)	After 1000 hours: Capacitance change: ±30% of initial rated value Internal resistance: Within 2 times of initial specified value
Load life (At rated voltage & 25°C)	After 10 years: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value
Cycle life (From rated voltage to 1/2 rated voltage at 25°C)	After 500,000 cycles: Capacitance change: Within ±30 % of initial rated value Internal resistance: Within 2 times of initial specified value
Shelf life	After 1000 hours storage, at 70°C without load, the capacitor shall meet the specified endurance limits.

**DIMENSIONS (mm)**



**STANDARD PRODUCTS**

Part Number	Cap. (F)	ESR DC (mΩ)	ESR AC (mΩ) (1 KHz)	Leakage Current (mA) (72 hrs @ 25C)	Dimensions (mm)				Max Peak Current (A)	Weight/Unit (grams)
					D	L	d	LS		
TPL-15/12X31F	15	60	35	0.035	12.5	31.5	0.8	5.3	10.66	5.3

**PART NUMBER EXAMPLE**

TPL	-	15	/	12X31	F
Type		Capacitance Code (F)		Size (DxL)	RoHS Compliant