

TYPE TPL

GENERAL PURPOSE RADIAL LEAD ULTRACAPACITOR CELLS

# FEATURES

- Small size and low resistance
- Quick charge and discharge
- RoHS compliant
- UL recognized
- Sealed for improved performance in elevated humidity environments

#### **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  | 8F   |  |  |  |  |  |  |  |  |
| Rated voltage  | 2.7 VDC / 2.3 VDC  |  |  |  |  |  |  |  |  |
| Surge voltage  | 2.85 VDC   |  |  |  |  |  |  |  |  |
| 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  | After 1000 hours:  |  |  |  |  |  |  |  |  |
| (At rated voltage & max. operating   | Capacitance change: ±30% of initial rated value  |  |  |  |  |  |  |  |  |
| temp)  | Internal resistance: Within 2 times of initial specified value                               |  |  |  |  |  |  |  |  |
| Projected Load life<br>(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                               |  |  |  |  |  |  |  |  |
| Projected cycle life   | After 500,000 cycles:  |  |  |  |  |  |  |  |  |
| (From rated voltage to 1/2 rated Capacitance change: Within ±30 % of initial rated value |  |  |  |  |  |  |  |  |  |
| voltage at 25°C)   | Internal resistance: Within 2 times of initial specified value                               |  |  |  |  |  |  |  |  |
| Shelf life   | After 2 years at 25°C without load, the capacitor shall meet the specified endurance limits. |  |  |  |  |  |  |  |  |
| Biased humidity life   | 3000 hours of continuous charging at VR, 60°C and 90%RH for mechanical integrity             |  |  |  |  |  |  |  |  |



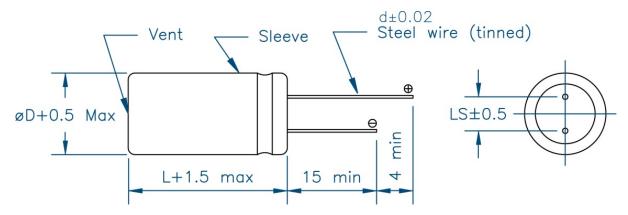
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CELLS

## DIMENSIONS



## **STANDARD PRODUCTS**

| Part Number    | Nom. GMV<br>Cap. (F) (F)* | ESR DC | ESR AC<br>(mΩ)       | Leakage<br>Current (mA) | Dimensions (mm)   |    |    |     | Rated<br>Current | Weight/Unit |         |
|----------------|---------------------------|--------|----------------------|-------------------------|-------------------|----|----|-----|------------------|-------------|---------|
|                |                           | (F)*   | <b>(m</b> Ω <b>)</b> | (1 KHz)                 | (72 hrs @<br>25C) | D  | L  | d   | LS               | (A)         | (grams) |
| TPL-8.0/10X25F | 8                         | 7.2    | 100                  | 60                      | 0.02              | 10 | 25 | 0.6 | 5                | 6           | 3       |

\*NOTE: GMV = Guaranteed Minimum Value.