

TYPE TPLH RADIAL GENERAL PURPOSE RADIAL LEAD ULTRACAPACITOR

CELLS

FEATURES

- Small size and low resistance
- Quick charge and discharge
- RoHS compliant
- Sealed for improved performance in elevated humidity environments
- 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	30F								
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 (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								
Projected 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								
Projected 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 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								



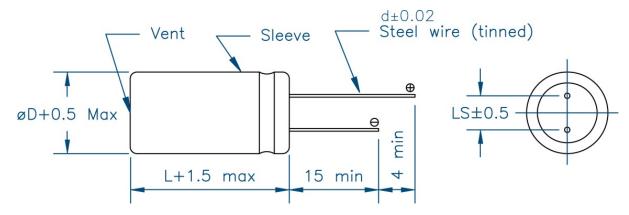
7520 Mission Valley Road • San Diego, CA 92108-4400 USA • Tel: 619.398.9700 • Fax: 619.398.9777 • www.tecategroup.com



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DIMENSIONS



STANDARD PRODUCTS

Nom. Cap. (F) GMV (F)*	-	ESR DC	ESR AC Max.	Leakage Current	Dimensions (mm)				Rated	Weight/Unit
	(mΩ)	(mΩ) (1 KHz)	(11A) (72 hrs @ 25C)	D	L	d	LS	(A)	(grams)	
30	27	26	23	0.13	16	26	0.8	7.5	19.76	8.5
	Cap. (F)	Cap. (F) (F)*	Cap. (F)* Typical (F) (mΩ)	Nom. Cap. (F)GMV (F)*ESR DC Typical (mΩ)Max. (mΩ) (1 KHz)	$\begin{array}{c c} \text{Nom.} \\ \text{Cap.} \\ (F) \end{array} \begin{array}{c} \text{GMV} \\ (F)^* \end{array} \begin{array}{c} \text{ESR DC} \\ \text{Typical} \\ (m\Omega) \end{array} \begin{array}{c} \text{ESR AC} \\ \text{Max.} \\ (m\Omega) \\ (1 \text{ KHz}) \end{array} \begin{array}{c} \text{Current} \\ (mA) \\ (72 \text{ hrs } @ \\ 25C) \end{array}$	$\begin{array}{c c} Nom. \\ Cap. \\ (F) \\ (F) \\ \end{array} \begin{array}{c} GMV \\ (F)^* \\ (F)^* \end{array} \begin{array}{c} ESR DC \\ Typical \\ (m\Omega) \\ (m\Omega) \\ \end{array} \begin{array}{c} ESR AC \\ Max. \\ (m\Omega) \\ (1 \text{ KHz}) \\ \end{array} \begin{array}{c} Current \\ (mA) \\ (72 \text{ hrs } @ \\ 25C) \end{array} \begin{array}{c} Dim \\ D \\ D \\ \end{array}$	$\begin{array}{c c} Nom. \\ Cap. \\ (F) \end{array} \begin{array}{c} GMV \\ (F)^* \end{array} \begin{array}{c} ESR \ DC \\ Typical \\ (m\Omega) \end{array} \begin{array}{c} ESR \ AC \\ Max. \\ (m\Omega) \\ (1 \ KHz) \end{array} \begin{array}{c} Current \\ (mA) \\ (72 \ hrs \ @ \\ 25C) \end{array} \begin{array}{c} Dimensing \\ D \end{array}$	$\begin{array}{c c} Nom. \\ Cap. \\ (F) \end{array} & \begin{array}{c} GMV \\ (F)^* \end{array} & \begin{array}{c} ESR \ DC \\ Typical \\ (m\Omega) \end{array} & \begin{array}{c} ESR \ AC \\ Max. \\ (m\Omega) \\ (1 \ KHz) \end{array} & \begin{array}{c} Current \\ (mA) \\ (72 \ hrs \ @ \\ 25C) \end{array} & \begin{array}{c} Dimensions (methods) \\ D \end{array} & \begin{array}{c} L \\ d \end{array} & \begin{array}{c} d \end{array} & \begin{array}{c} d \end{array} \\ \end{array}$	$\begin{array}{c c} Nom. \\ Cap. \\ (F) \end{array} \begin{array}{c} GMV \\ (F)^{*} \end{array} \begin{array}{c} ESR DC \\ Typical \\ (m\Omega) \end{array} \begin{array}{c} ESR AC \\ Max. \\ (m\Omega) \\ (1 \text{ KHz}) \end{array} \begin{array}{c} Current \\ (mA) \\ (72 \text{ hrs }@ \\ 25C) \end{array} \begin{array}{c} D \\ D \end{array} \begin{array}{c} L \\ d \end{array} \begin{array}{c} LSR AC \\ LS \end{array}$	$\begin{array}{c c} Nom. \\ Cap. \\ (F) \end{array} & \begin{array}{c} GMV \\ (F)^{*} \end{array} & \begin{array}{c} ESR \ DC \\ Typical \\ (m\Omega) \end{array} & \begin{array}{c} ESR \ AC \\ Max. \\ (m\Omega) \\ (1 \ KHz) \end{array} & \begin{array}{c} Current \\ (mA) \\ (72 \ hrs @ \\ 25C) \end{array} & \begin{array}{c} D \end{array} & \begin{array}{c} Dimensions \ (mm) \\ D \end{array} & \begin{array}{c} Rated \\ Current \\ (A) \end{array}$

*NOTE: GMV = Guaranteed Minimum Value.