



ShenZhen Topmay Electronic Co., Ltd

深圳市亿普电子有限公司

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PRODUCT SPECIFICATION

1. Application:

- ◆ Backup power: RAM, detonator, auto recorder, intelligent instrument, vacuum switch, digital camera, motor drive
- ◆ Energy storage: smart three meters, UPS, security equipment, communication equipment, flashlight, water meter, gas meter, car tail light, small home appliances
- ◆ High-current work: electrified railway, smart grid control, hybrid vehicle, wireless transmission
- ◆ High-power support: wind power generation, locomotive starting, ignition, electric vehicles, etc

2. Standard Test Conditions

- ◆ The test conditions of this specification is for standard atmospheric pressure, temperature of $25 \pm 1^\circ\text{C}$, relative humidity for less than 60%.
- ◆ The test standard: QC/T 741-2014 Automotive Super capacitors

DL/T 1652-2016 Technical Specification for Super capacitors for Power Metering Devices

3. General Specifications

Item	Specification/Condition
Part No	TMCS01-507Q2.7VB
Rate discharge capacitance (F 25°C $\Delta V=2.16\text{V}-1.35\text{V}$)	500F
Capacitance tolerance	-10%~+30%
Rated Voltage U_0 (V)	2.7V
Surge Voltage	2.85V
Category Temperature Range	$-40^\circ\text{C} \sim +65^\circ\text{C}$
Storage temperature range (at 0V)	$-40^\circ\text{C} \sim +65^\circ\text{C}$
Maximum ESR(m Ω 1KHz)	3m Ω (AC@1kHz)
	4.5m Ω (DC) @25 $^\circ\text{C}$
Max. Peak Current (25 $^\circ\text{C}$) 1s	207.7A
Leakage Current at 72h (25 $^\circ\text{C}$)	$\leq 1.5 \text{ mA}$
Cycle life	25 $^\circ\text{C}$, rated voltage-half rated voltage>500000 cycles, $ \Delta C/C \leq 20\%$, ESR ≤ 2 times of specified ESR

4.Product Structure

This product is based on the principle of double-layer capacitor. Activated carbon is used as positive and negative electrode inside, electrolyte and diaphragm are separated between the two poles, aluminum shell is sealed with rubber plug, and the leading pole is on the same side of the product.

5. Performance Index

ITEM		Specification
1	Temperature Characteristics	$ \Delta C/C \leq 10\%$, $ESR \leq \text{specified } ESR(25^\circ\text{C})$ at $+65^\circ\text{C}$ $ \Delta C/C \leq 20\%$, $ESR \leq 2$ times of specified $ESR(25^\circ\text{C})$ at -40°C
2	High temperature load	$ \Delta C/C \leq 30\%$, $ESR \leq 2$ times of specified $ESR(25^\circ\text{C})$ at $+65^\circ\text{C}$ /1500hrs/rated voltage
3	High temperature storage	$ \Delta C/C \leq 30\%$, $ESR \leq 2$ times of specified $ESR(25^\circ\text{C})$ at $+65^\circ\text{C}$ /1500hrs/rated voltage
4	Hygrothermal characteristics	$+40^\circ\text{C}$, 90--95%RH, 240h, $ \Delta C/C \leq 30\%$, $ESR \leq 2$ times of specified $ESR(25^\circ\text{C})$

6. Outline Drawing and Dimensions



Item	Criteria	Item	Criteria
ΦD	35.0+1 mm	L	71.0±2 mm
P	18.1±0.1 mm	h	6.2±1 mm