



Features:

- Delivers up to 100 times the energy of conventional capacitors and delivers ten times the power of ordinary batteries
- Is optimized for individual applications through its capacity to repeatedly charge and discharge
- Designed for smaller and lighter-weight products
- Offers instantaneous ride-through power
- UL recognized



TC2700

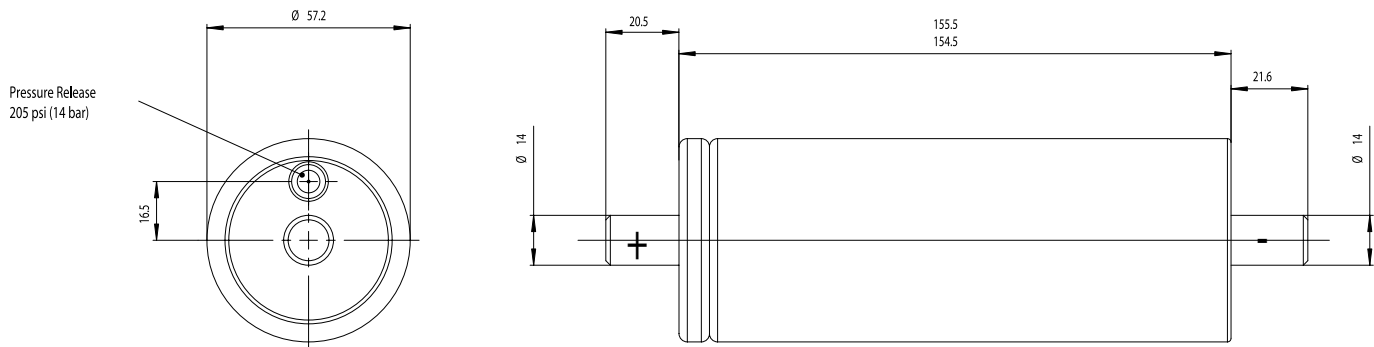
BOOSTCAP® Ultracapacitor

BOOSTCAP® Ultracapacitors provide extended power availability, allowing critical information and functions to remain available during dips, sags, and outages in the main power source. In addition, it can relieve batteries of burst power functions, thereby reducing costs and maximizing space and

energy efficiency. The ultracapacitor features a cylindrical design and an electrostatic storage capability that can cycle hundreds of thousands of charges and discharges without performance degradation.

BATTERY vs. ULTRACAPACITOR vs. CAPACITOR COMPARISON

Available Performance	Lead Acid Battery	Ultracapacitor	Conventional Capacitor
Charge Time	1 to 5 hours	0.3 to 30 seconds	10 ⁻³ to 10 ⁻⁶ seconds
Discharge Time	0.3 to 3 hours	0.3 to 30 seconds	10 ⁻³ to 10 ⁻⁶ seconds
Energy (Wh/kg)	10 to 100	1 to 10	<0.1
Cycle Life	1,000	>500,000	>500,000
Specific Power (W/kg)	<1000	<10,000	<100,000
Charge/discharge efficiency	0.7 to 0.85	0.85 to 0.98	>0.95



NOTES:
1) DIMENSIONS ARE IN (mm)

Specifications

Capacitance ¹	• 2700 Farads (DCC, 25°C)	
Capacitance Tolerance	• -5%/+5%	
Voltage	Continuous	• 2.5 V
	Peak	• 2.7 V
Series Resistance ¹	DC	• 0.7 mΩ (-25%/+25%)
	1 kHz	• 0.5 mΩ (-25%/+25%)
Current (Rated) ^{2, 3, 4}	• 500 A	
Stored Energy	• 8400 J	
Leakage Current	• 5 mA	(72h, 25°C)
Weight	• 600 g	
Volume	• 0.51 L	(with terminals)
	• 0.40 L	(without terminals)
Temperature ⁵	Operating Storage	• -40° C to 65° C • -40° C to 85° C
High Temperature Performance	65°C	
Capacitance	2700 F	(-5%/+5%)
Resistance	0.7 mΩ	(-25%/+25%) (DC)
Low Temperature Performance	-40°C	
Capacitance	2700 F	(-5%/+5%)
Resistance	1.1 mΩ	(-25%/+25%) (DC)
Life Time (25°C)	• 10 y	ΔC >20%, ESR < 200% of initial value
Cyclability (25°C, I = 20 A)	• 500,000	ΔC >20%, ESR < 200% of initial value

The TC2700 is a 2700 farad ultracapacitor that caches 8400 Joules of energy at a nominal voltage of 2.5V. Measuring 155 x 57 mm, the device is ideal for industrial, UPS, hybrid electric vehicle, and fuel cell applications, or for any other application requiring pulse power, high cycle reliability, and/or low maintenance.

The TC2700 is charged from and used in conjunction with a primary power supply – whether that power supply is a battery, fuel cell, or generator. Through its small size and its ability to relieve power intensive systems of peak power functions, the ultracapacitor drastically extends a system's life while reducing its overall cost and size.

The TC2700 is also an ideal source of back-up power and pulse. It reduces the significant cost and safety risks that result from power interruptions to, for example, an industrial plant or hospital during dips, sags, and outages in the main power supply. The TC2700 is capable of accepting charge at the identical rate of discharge.

Physical Characteristics

Dimensions (Reference only) • 155 x 57 mm (+/- 1 mm)

NOTES

- ¹ After 5000 cycles or 500 hours rated voltage
- ² Dependent on cooling provisions
- ³ Rated current: 5 sec discharge rate to ½V
- ⁴ Device can withstand short circuit current if kept within the operating temperature
- ⁵ Steady state case temperature

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