

## Datasheet

48V 36F Ultra capacitor Module



# GTSM-48V36FUS



### FEATURES AND BENEFITS

- Compact, fully enclosed splash proof design
- Highest power performance
- Individually balanced cells
- Over 1,000,000 duty cycles
- Ultra-low internal resistance

### TYPICAL APPLICATIONS

- Electric vehicle
- Fork lift, Cranes
- Telecommunications
- Railway transportation
- Engine starting

### SPECIFICATIONS

#### ELECTRICAL

##### Capacitance

Nominal capacitance	36 F
Capacitance tolerance	+20% / -10%

##### Voltage

Rated voltage	48 V
Absolute Maximum Voltage	51 V
Maximum Series Voltage	750 V

##### Resistance

ESR, DC	16mΩ
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##### Current

Maximum continuous current ( $\Delta T=40^{\circ}C$ )	60 A
Maximum peak current, 1 sec.	500A
Maximum leakage current	1.8mA

#### TEMPERATURE

##### Operating temperature range

(Cell case temperature)	-40°C to +65°C
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##### Storage temperature range

(Storage uncharged)	-40°C to +70°C
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#### PHYSICAL

Weight	8.5kg
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Power Terminals	M8/M10
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Recommended Torque - Terminal	20/30 Nm
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Vibration Specification	GB-T 11287-2000
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Shock Specification	GBT 14537-1993
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Environmental Protection	IP65
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#### MONITORING / CELL VOLTAGE MANAGEMENT

Internal Temperature Sensor	NTC Thermistor
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Cell Voltage Monitoring	Overvoltage Alarm
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#### POWER AND ENERGY

Usable power density (Pd)	2032 W/kg
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Impedance match power density (Pmax)	4235 W/kg
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Gravimetric energy density (E <sub>max</sub> )	1.36Wh/kg
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Energy available	11.5 Wh
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#### LIFE

<b>High Temperature</b> (at Rated Voltage & Maximum operating Temperature)	1,500 hours
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Capacitance change (% decrease from minimum initial value)	≤20%
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ESR change (% increase from minimum initial value)	≤100%
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<b>Room Temperature</b> (at Rated Voltage at 25°C)	10 years
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Capacitance change (% decrease from minimum initial value)	≤20%
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ESR change (% increase from minimum initial value)	≤100%
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<b>Cycle Life</b> (Number of cycles)	1,000,000 times
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Capacitance change (% decrease from minimum initial value)	≤20%
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ESR change (% increase from minimum initial value)	≤100%
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<b>Shelf Life</b> (Stored uncharged up to a maximum storage temperature)	2 years
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#### SAFETY

<b>Short circuit current (I<sub>sc</sub>)</b> (Current possible with short circuit from rated voltage. Do not use as an operating current.)	3000 A
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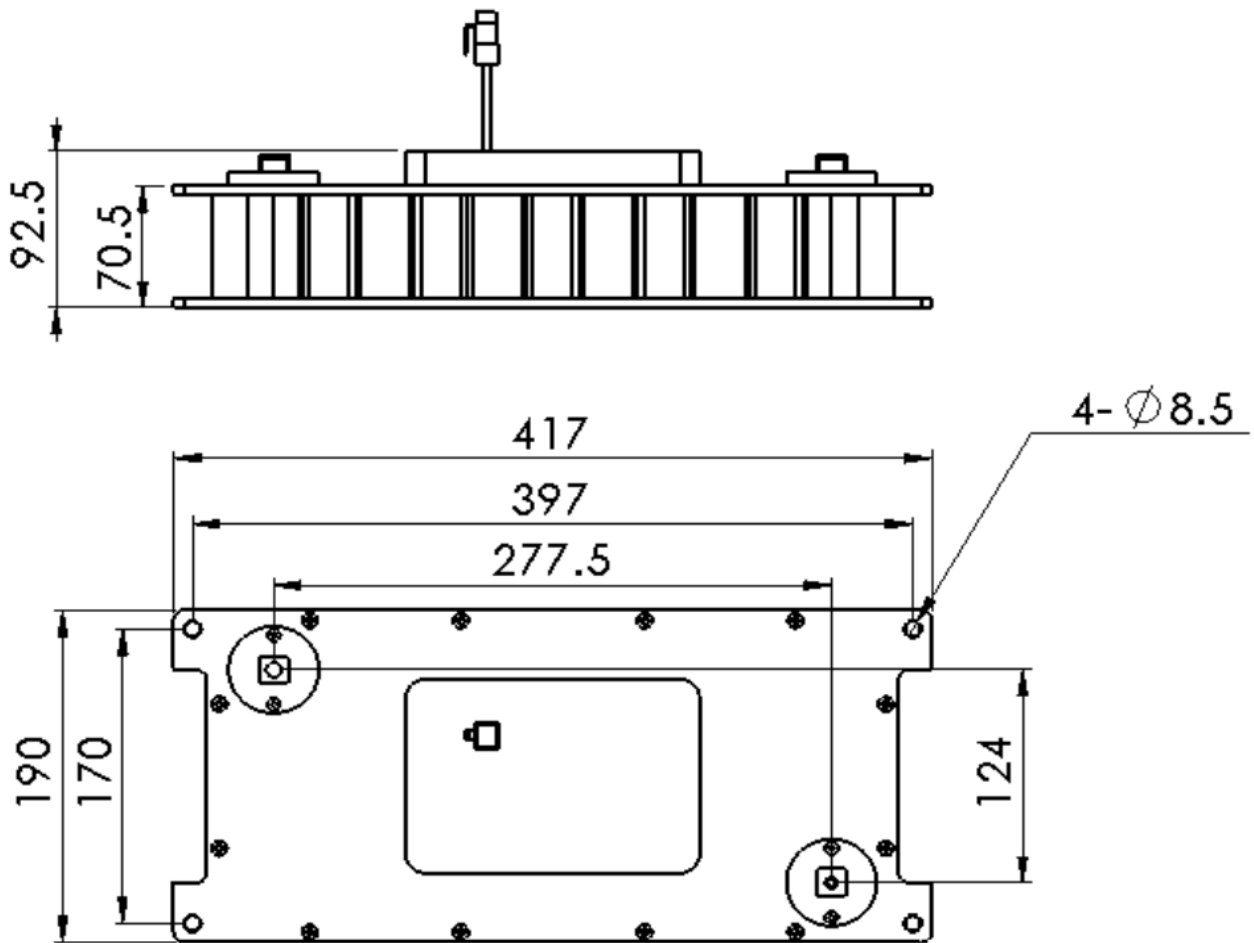
<b>Factory High-Pot Test</b>	1,500 V/DC
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GTSM-48V36FUS



Part Number	Dimension (mm)			Package Quantity(set)
	L (±0.5mm)	W (±0.5mm)	H (±0.5mm)	
GTSM-48V36FUS	417.0	190.0	92.5	1

Product dimensions are for reference only unless otherwise specified. Product dimensions and specifications may change without notice. Please contact GTCAP directly for any technical specifications critical to application.