



GP16471

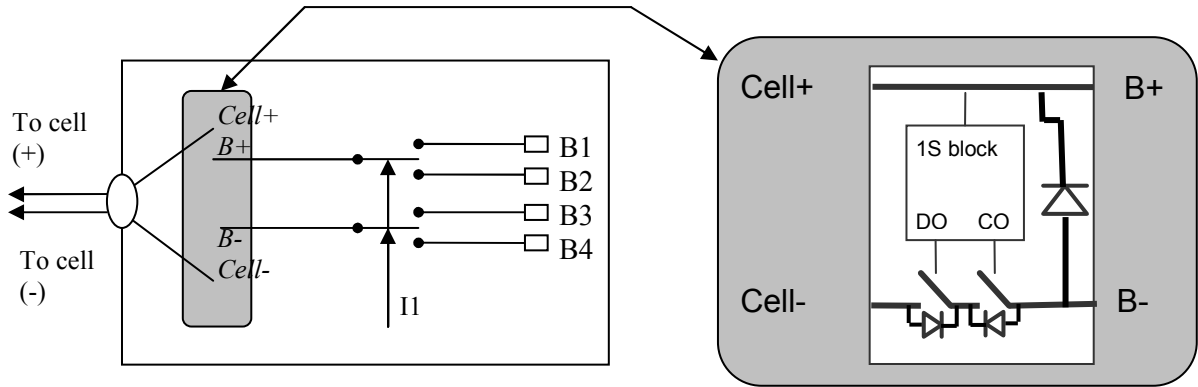
1s-5A protection box for VL25500-125 Cells

This equipment is used to protect one VL25500-125 cell.

The goal is to test the cell in the temperature range (0 to 125°C) and with different values of voltage and current. The main goal is for the customer to qualify the VL25500-125 cell.

As the electronic protection for these conditions is not developed yet, the box has to be used out of the heat room. It contains a standard 1s protection circuit and allows charge and discharge on different inputs.

Electrical Diagram



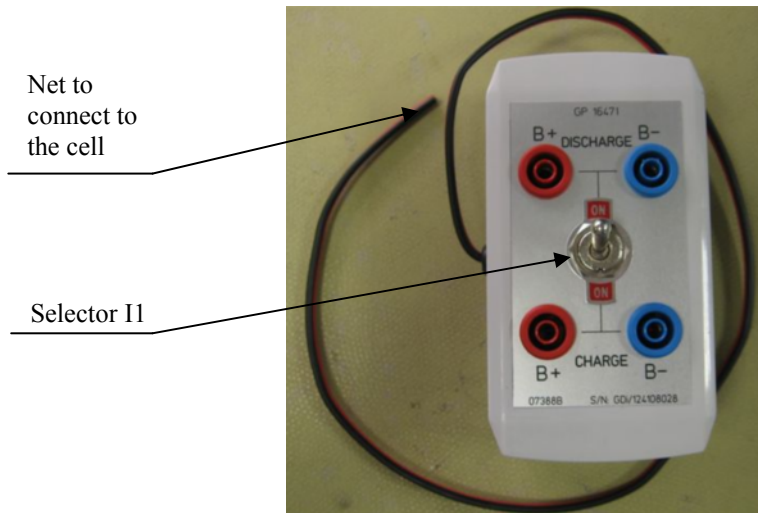
B1 = Positive output for discharge (when I1 is chosen for discharge)

B2 = Positive input for charge (when I1 is chosen for charge)

B3 = Negative output for discharge (when I1 is chosen for discharge)

B4 = Negative input for charge (when I1 is chosen for charge)

Mechanical Description





Electrical characteristics

Voltage protection

Symbol	Parameter	Conditions ⁽¹⁾	Value	Tolerance	Unit
VUL	Voltage upper limit		4.275	± 0.025V	V
VHUL	Voltage hysteresis upper limit		-0.2		V
TUL	Delay time for VUL		1.2	± 0.3	s
VLL	Voltage lower limit		2.3	± 0.025V	V
VHLL	Voltage hysteresis lower limit		0		V
TLL	Delay time for VLL		144 ⁽²⁾	± 30	ms

(1) For the box, not for the cell

(2) + 3ms for MOSFET delay

Current protection

Symbol	Parameter	Conditions ⁽¹⁾	Value	Tolerance	Unit
Imax	Current max	25°C	6	max	A
		50°C	5	max	A
Oc1	Over current 1 detection		12	±5	A
Ocd1	Over current 1 delay time		9	±2 ⁽²⁾	ms
Oc2	Over current 2 detection		49	±21	A
Ocd2	Over current 2 delay time		2.25	±0.45 ⁽²⁾	ms
Oc3	Over current 3 detection		119	±59	A
Ocd3	Over current 3 delay time		0.32	±0.12 ⁽²⁾	ms
Cod	Charge over current detection		27	min	A
Rccl	Reverse charge current limit		3	max	A

(1) For the box, not for the cell

(2) + 3ms for MOSFET delay

General specifications

Symbol	Parameter	Conditions	Value	Tolerance	Unit
Cons	Circuit consumption	25°C	10	max	μA
		50°C	23	max	μA
Smcc	Sleep mode circuit consumption		0.1	max	μA
Otr	Operating temperature range		-40 to 60°C	max	°C
Vdmax	Maximum voltage		12	max	V