BatMod™

Actual Size:
4.6 x 2.4 x 0.5in
(116,8 x 61,0 x 12,7mm)

Battery Charger Current Source Modules

Features & Benefits

- RoHS compliant (VE versions)
- Programmable output current
- Booster versions available
- Size: 4.6" x 2.4" x 0.5"
  (116,8 x 61,0 x 12,7mm)
- UL, CSA, TÜV
- Compatible with all major battery types
- Inputs: 48, 150, 300V_{DC}
- Outputs: 12, 24, 48V_{DC} Nominal
- Analog current monitor
- Analog overvoltage adjust
- CE Marked

Product Highlights

The BatMod combines Vicor's industry standard package with the flexibility of a power converter whose output voltage and output current may be independently set. BatMod's allow the user to independently program a constant output current and a maximum float voltage. The float voltage is the point at which the BatMod transitions from constant current to constant voltage. These features make the BatMod an ideal candidate for battery charging and other applications which require a controlled current source.

The BatMod is also available in booster versions that enable the designer to create systems capable of multiple kilowatts of output power.

With its wide range of input options, the BatMod is compatible with all major battery types. This new current output module finds application in systems where easily programmable current is of primary importance.

Consult factory for availability of input/output voltage ranges not shown.

Packaging Options

SlimMods™, high power density, flangeless packages and FinMods™, featuring integral finned heatsinks.

SlimMod: Option suffix: - S
Example:
VX - XXX - XU - BM **- S**

FinMod: Option suffix:

- F1, - F2, - F3 and - F4

Examples:

VX - XXX - XU -BM **-F1**, 0.25"H longitudinal fin
VX - XXX - XU -BM **-F2**, 0.5"H longitudinal fin
VX - XXX - XU -BM **-F3**, 0.25"H transverse fin
VX - XXX - XU -BM **-F4**, 0.5"H transverse fin

Specifications

(Typical T_{BP} = 25°C, nominal line, 75% load, unless otherwise specified)

Parameter	Rating	Notes
Nominal input voltage	48V_{DC}, 150V_{DC}, 300V_{DC}	42 – 60V, 100 – 200V, 200 – 400V
Output current (Refer to safe operating curves on page 2)	0 – 14.5A	12V battery system
	0 – 7.25A	24V battery system
	0 – 3.6A	48V battery system
Current control input	1 – 5V	Zero to max. current
Current monitor output	1 – 5V	Zero to full load
Voltage control input	0 – 2.5V	Zero to FS output
Output voltage setpoint Trimmable +10%, -25%	15V, 30V, 60V ±1%	12V, 24V, 48V Output Respectively
Dynamic characteristics	V-Mode: 300µsec typ.	V_{NOM} for 50 – 100%
	I-Mode: 250µsec typ.	load changes
Dielectric withstand		
Input to output	3,000V_{RMS}	
Output to baseplate	500V_{RMS}	
Input to baseplate	1,500 V_{RMS}	

Part Numbering

(Typical model: input 300V_{DC}, output 12V_{DC} at 200W)

V I* - 2 6 1 - E U - B M

* **E** = RoHS

Module
2 = Driver
B = Booster

Input Voltage

Nominal	Range
3 = 48V	42 – 60V
5 = 150V	100 – 200V
6 = 300V	200 – 400V

Output Voltage

Nominal	Range
1 = 12V	11.25 – 16.5V
3 = 24V[1]	22.5 – 33.0V
4 = 48V	45.0 – 66.0V

[1]Available in 300V input only

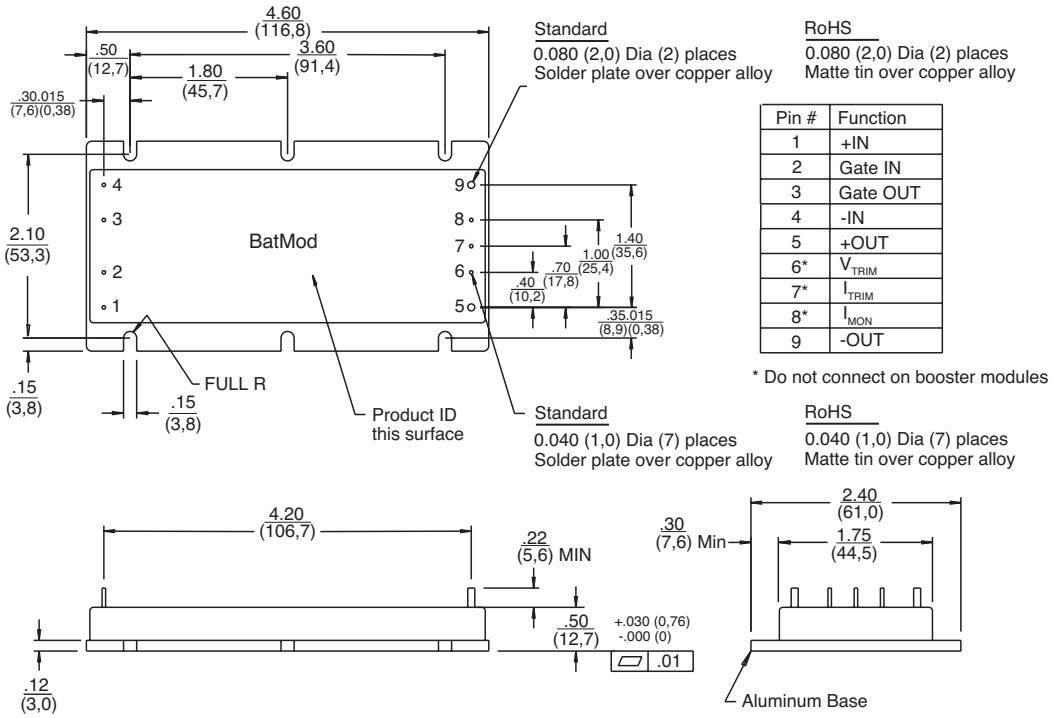
Product Grade Temperatures (°C)

Grade	Operating	Storage
E =	– 10 to +85	– 20 to +100
C =	– 25 to +85	– 40 to +100
I =	– 40 to +85	– 55 to +100
M =	– 55 to +85	– 65 to +100

Storage

Vicor products, when not installed in customer units, should be stored in ESD safe packaging in accordance with ANSI/ESD S20.20, "Protection of Electrical and Electronic Parts, Assemblies and Equipment" and should be maintained in a temperature controlled factory/ warehouse environment not exposed to outside elements controlled between the temperature ranges of 15°C and 38°C. Humidity shall not be condensing, no minimum humidity when stored in an ESD compliant package.

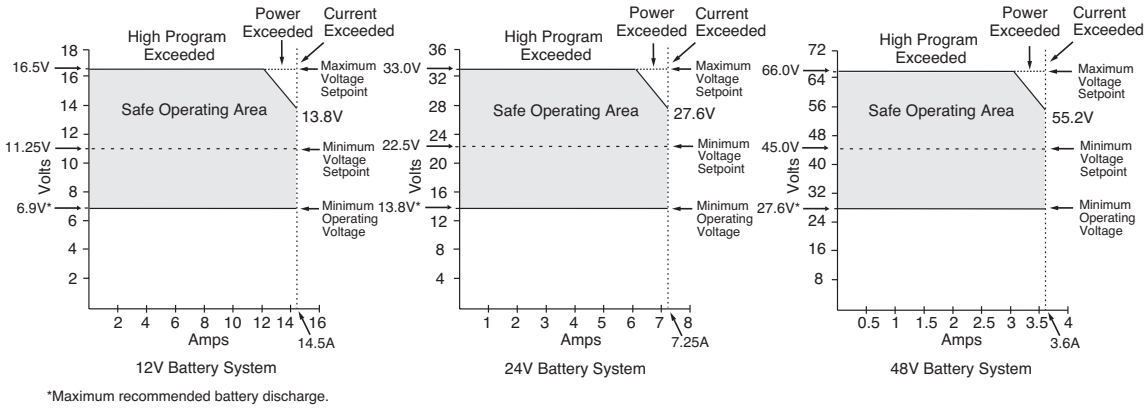
Mechanical Diagram



Pin #	Function
1	+IN
2	Gate IN
3	Gate OUT
4	-IN
5	+OUT
6*	V_{TRIM}
7*	I_{TRIM}
8*	I_{MON}
9	-OUT

* Do not connect on booster modules

Safe Operating Conditions



*Maximum recommended battery discharge.

Typical Applications

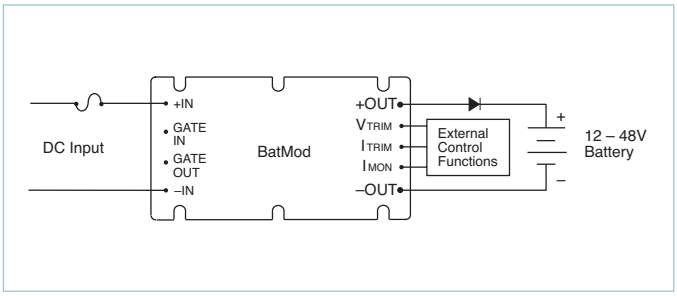


Figure 1 — *DC Input Battery Charger*

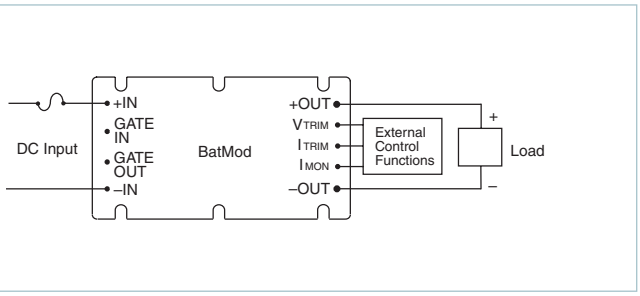


Figure 2 — *DC Input Programmable Current Source*

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