Data Sheet
BatMod™
Battery Charger Current Source Modules

Features

- 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 12,7 mm)
- UL, CSA, TÜV
- Compatible with all major battery types
- Inputs: 48, 150, 300 Vdc
- Outputs: 12, 24, 48 Vdc 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	48 Vdc, 150 Vdc, 300 Vdc	42 – 60 V, 100 – 200 V, 200 – 400 V
Output current (Refer to safe operating curves on page 2)	0 – 14.5 A	12 V battery system
	0 – 7.25 A	24 V battery system
	0 – 3.6 A	48 V battery system
Current control input	1 – 5 V	Zero to max. current
Current monitor output	1 – 5 V	Zero to full load
Voltage control input	0 – 2.5 V	Zero to FS output
Output voltage setpoint Trimmable +10%, -25%	15 V, 30 V, 60 V +/-1%	12 V, 24 V, 48 V Output Respectively
Dynamic characteristics	V-Mode: 300 µsec typ.	V_{NOM} for 50 – 100%
	I-Mode: 250 µsec typ.	load changes
Dielectric withstand		
Input to output	3,000 V_{RMS}	
Output to baseplate	500 V_{RMS}	
Input to baseplate	1,500 V_{RMS}	

Part Numbering

(typical model: input 300 Vdc, output 12 Vdc at 200 W)

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

* **E** = RoHS

Module	
2 = Driver	
B = Booster	

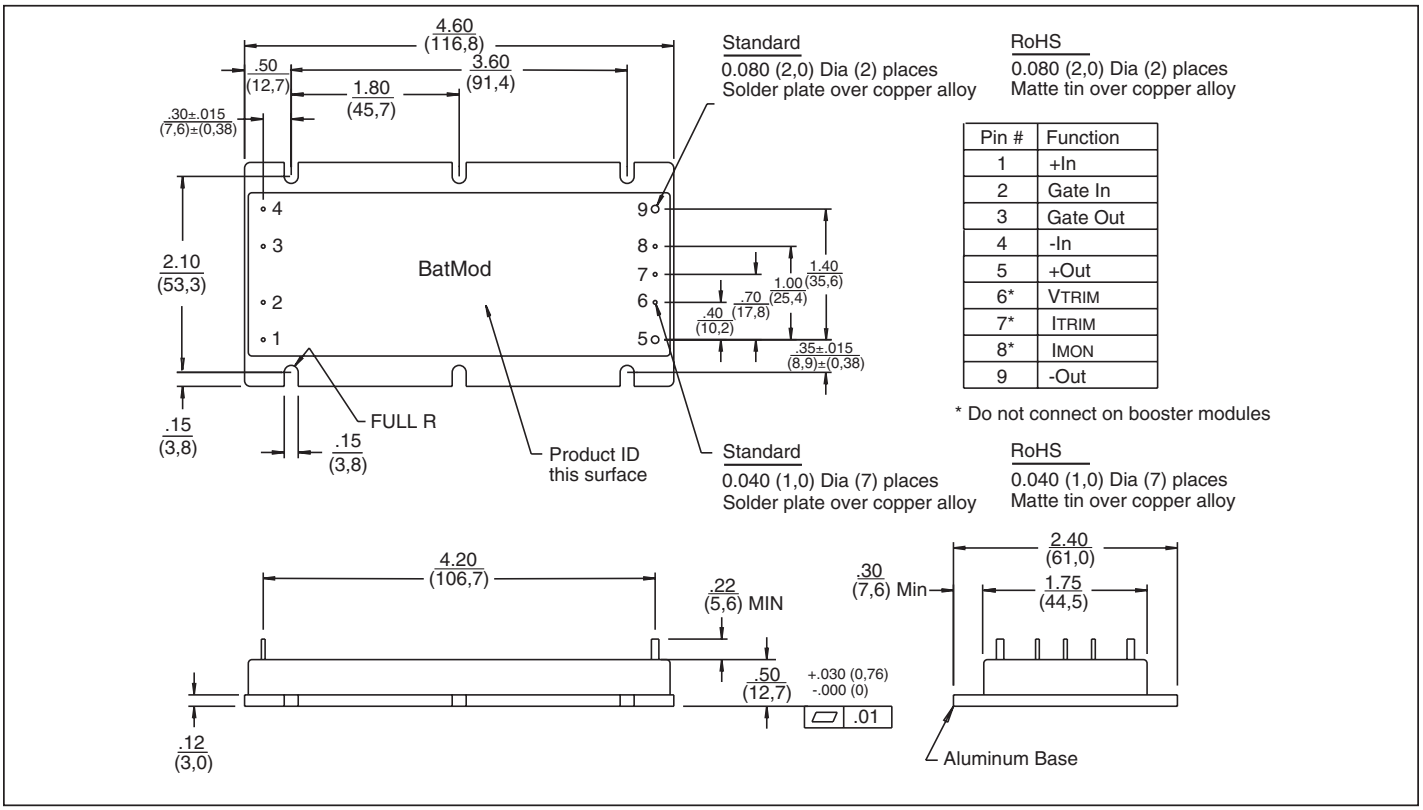
Input Voltage		
	Nominal	Range
3 = 48 V	42 – 60 V	
5 = 150 V	100 – 200 V	
6 = 300 V	200 – 400 V	

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

[1] Available in 300 V 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

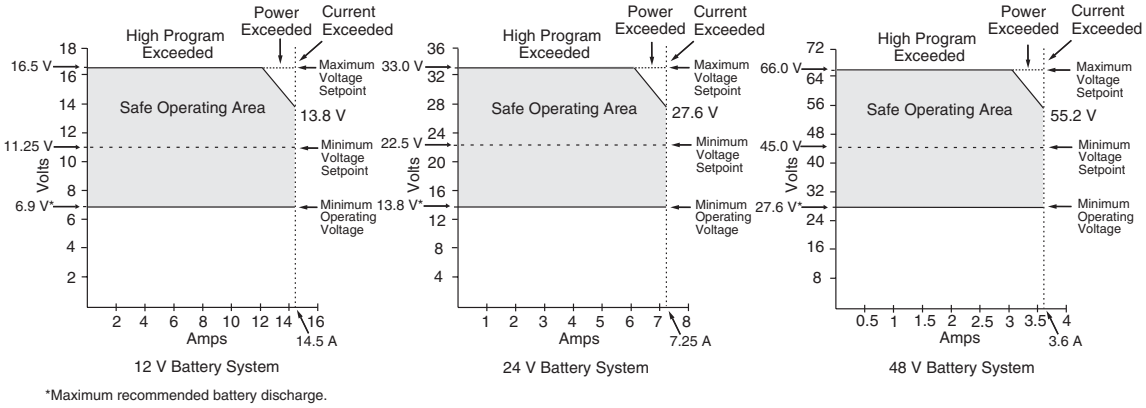
MECHANICAL DIAGRAM



Pin #	Function
1	+In
2	Gate In
3	Gate Out
4	-In
5	+Out
6*	VTRIM
7*	ITRIM
8*	IMON
9	-Out

* Do not connect on booster modules

Safe Operating Conditions



*Maximum recommended battery discharge.

Typical Applications

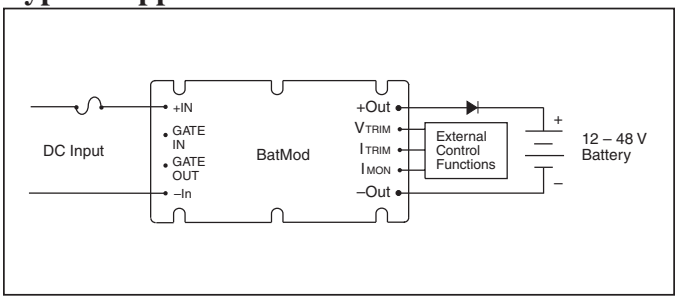


***Figure 1** — DC Input Battery Charger*

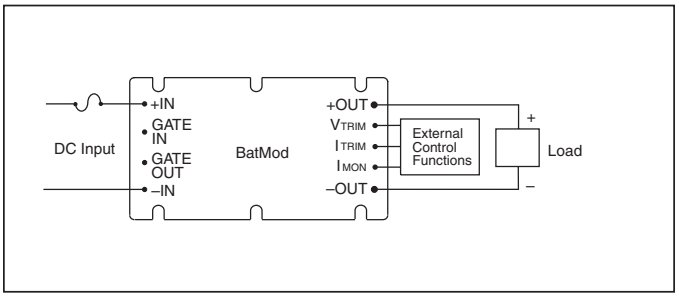


***Figure 2** — DC Input Programmable Current Source*

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