

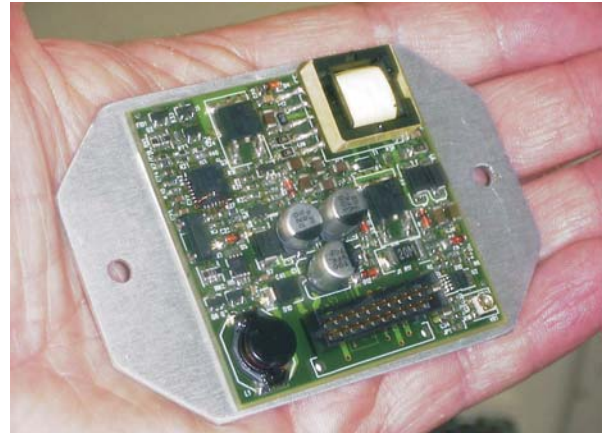
BB10A 10 Watt Battery Controller

Low Cost Charger & DC Converter for OEM Applications

Index Designs

Features

- Integrated Battery Charger and DC Converter.
- Supports Li, NiCd, NiH and Lead Acid batteries.
- Provides Regulated +5, +3.3 & +/- 14 volts.
- Internal Real Time Clock and Watchdog Timer.
- Standby current of 20ua runs years on Li cells.
- "Freshness Seal" allows years of Battery Storage without battery discharge. (< 1ua)
- Aluminum mounting bracket with thermal management technique simplifies OEM mounting.



General Description

The Battery Boss BB10A is a multi-function module designed to simplify the construction of battery powered embedded processor systems. The integration of battery charger, power switch, DC converter and internal software greatly simplifies target system design.

BB10A power line filters include low Z ceramic capacitors a pi filter on the DC input. A multilayer PCB provides low common impedance.

Regulated DC Output

BB10A outputs include both both direct and "Flyback" regulated voltages. Either the +5 or +3.3 output can be selected as feedback for direct regulation. A tapped foil winding in the flyback inductor maintains a high degree of flyback regulation on the other voltage. This tight coupling allows unused outputs to remain open which reduces battery load current.

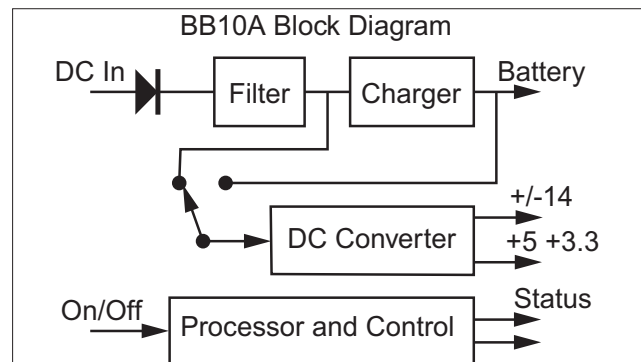
The BB10A also includes a "Pulse On Demand" burst mode which minimizes battery drain during periods of low load currents. This operating mode is automatically engaged when the load current of the directly regulated output drops below the minimum required level.

Smart Functions and Controls

The BB10A is a software driven system, all charging and control function are monitored by an internal PIC processor and firmware. Various operating modes and IO functions are easily tailored to specific applications using on board EEPROM parameters or reprogram of the FLASH resident software.

Block Diagram

When DC Power is applied the battery is charged and outputs are active. Loss of DC switches load to battery.



Specifications:

Input Voltage Range	6.0 - 20 Volts
Output Power	10 - 20 Watts (Configuration Dependent)
Output Current (See Manual for Details)	+5 and +3.3 Outputs @ 1 Amp +14 and -14 Outputs @ 100milliamp +14 can provide 1 Amp Peak Minimum Load Current: 1ma
Size	PCB: 2.0 x 2.0 x 0.4 Inches Mounting Plate: 3.2 x 2.2 Inches Mounting Holes: 2.70 Inch
Connector	20 Pin Shrouded Dual Row 2mm Centers Mating Shell: Molex 51110-2051
No Load Full Operation	< 5ma
Idle Load	20ua Active <1ua with Freshness Seal
Line Regulation	< 2%
Load Regulation	< 2% on Primary Output < 5% on Flyback Outputs

Index Design • Baltimore Maryland • U.S.A.

1-410-821-1315 • sales@indexdesigns.com • <http://www.indexdesigns.com>