MCP1630 Li-Ion Multi Bay Battery Charger Reference Design

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Part Number: MCP1630RD-LIC1

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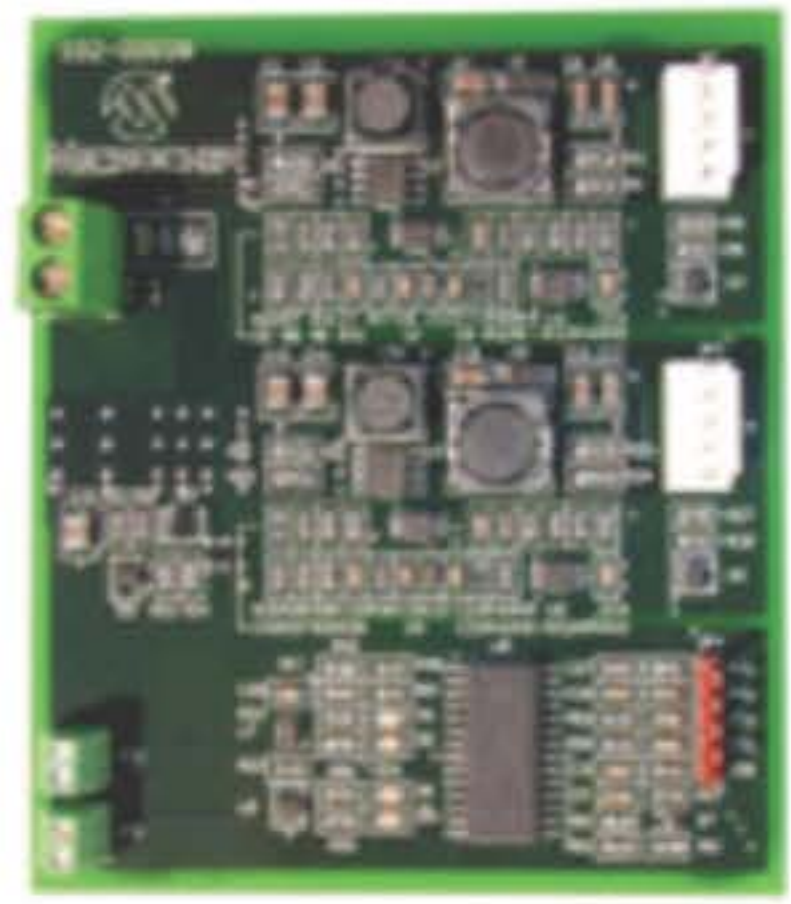
The MCP1630 Multi-Bay Li-Ion Charger is used to evaluate Microchip's MCP1630 used in a SEPIC power converter application. The MCP1630 Multi-Bay Li-Ion Charger is capable of charging two single-cell, Li-Ion battery packs in parallel utilizing an input voltage of 10V to 30V (battery packs are not included). Multiple boards can be daisy-chained for additional charger bays. The MCP1630 Multi-Bay Li-Ion Charger is intended for use in pseudo-smart battery charger applications utilizing battery packs containing Microchip's PS700 Battery Monitor. Standard battery packs can be utilized as well. The MCP1630 Multi-Bay Li-Ion Charger provides a constant current - constant voltage charge with preconditioning, cell temperature monitoring, and battery pack fault monitoring. Each charger bay provides a status and fault indication. The MCP1630 Multi-Bay Li-Ion Charger automatically detects the insertion or removal of a battery pack.



Features | Package Contents

- Over Voltage Protection (battery removed).
- Over Charge Protection to prevent the battery from becoming dangerously overcharged.
- Over Current Protection in the event of a shorted battery.
- Battery Reversal Protection.
- Input Short Circuit Protection.
- Over Temperature Protection to prevent the battery from reaching too high a temperature during charge.
- Fast charge termination if the battery temperature is outside a preset window.
- Controlled soft-start.
- The MCP1630 Multi-Bay Li-Ion Charger terminates charge by detecting a predefined charge current threshold during constant voltage charge, or a specified elapsed time.
- The MCP1630 Multi-Bay Li-Ion Charger has the flexibility to optimize the charging algorithm for new battery technology and add proprietary features by coding the microcontroller.
- Programmed parameters - modified in firmware

Factory Settings:

Preconditioning Charge Current	=	200 mA
Preconditioning Threshold	=	3V
Constant Current Fast Charge	=	2A
Constant Voltage Charge	=	4.2 V
Charge Termination Threshold	=	100 mA

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Documents	Last Updated	Size
MCP1630/MCP1630V Data Sheet	2/5/2013 2:41:28 PM	345KB
PIC12F683 Data Sheet	2/19/2007 1:30:02 PM	2MB
MCP1630 Li-Ion Multi Bay Battery Charger Ref Design Gerbers	1/11/2006 3:15:29 PM	189KB
MCP1630 Li-Ion Multi Bay Battery Charger Ref Design Firmware	1/11/2006 3:12:38 PM	9KB
MCP1630 Li-Ion Multi-Bay Battery Charger Reference Design User's Guide	12/19/2005 3:41:45 PM	519KB