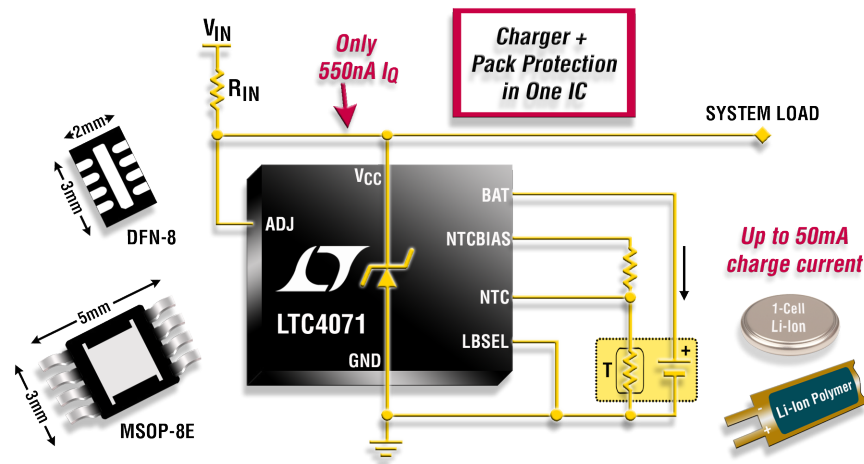


Li-Ion/Polymer Shunt Battery Charger System with Low Battery Disconnect



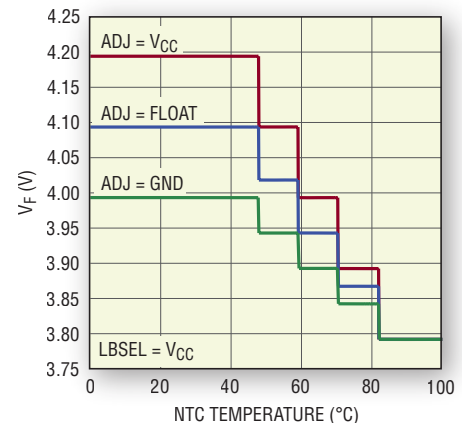
Ultracompact, 550nA Shunt Battery Charger & Protection Solution

Features

- Charger Plus Pack Protection in One IC
- Low Operating Current (550nA)
- Near Zero Current (<0.1nA) Low Battery Disconnect Function to Protect Batteries from Overdischarge
- Pin Selectable Low Battery Disconnect Level: 2.7V or 3.2V
- 1% Float Voltage Accuracy Over Temperature
- 50mA Maximum Shunt Current
- Pin Selectable Float Voltage Options: 4.0V, 4.1V, 4.2V
- Ultralow Power Pulsed NTC Float Conditioning for Li-Ion/Polymer Protection
- Suitable for Intermittent, Continuous and Very Low Power Charging Sources
- High Battery Status Output
- Thermally Enhanced, Low Profile 8-Lead 2mm x 3mm x 0.75mm DFN and MSOP Packages

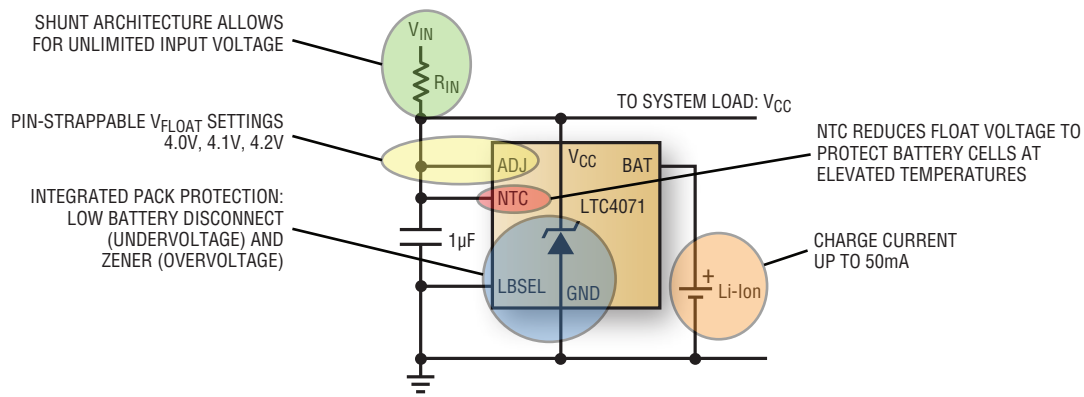
The LTC[®]4071 is an easy-to-use, tiny shunt battery system for Li-Ion/Polymer batteries, which integrates a charger and battery pack protection in one IC. The LTC4071, with its 550nA operating current, charges and protects batteries at up to 50mA from previously unusable very low current, intermittent or continuous charging sources. A near zero current (<0.1nA) low battery latching disconnect function protects even low capacity batteries from deep discharge and potentially irreparable damage. Housed in a low profile (0.75mm) 8-lead 2mm x 3mm DFN package, the LTC4071 provides the only complete and ultracompact battery charger and protection solution operating with low level power sources such as energy scavenging/harvesting, resistive isolation or solar-powered systems. It can charge Li-Ion/Polymer, coin cell and thin film batteries.

V_F vs NTC Temperature

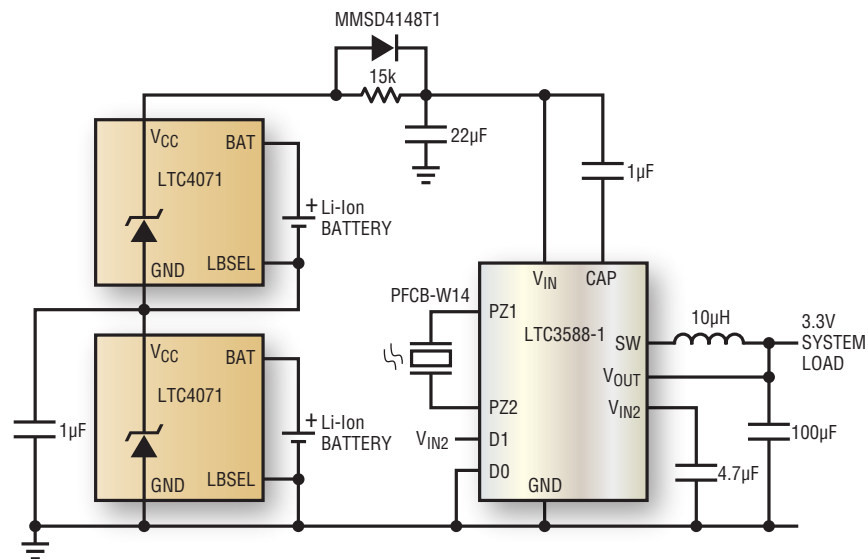


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LTC4071 Features and Benefits



Application Circuit – Energy Harvesting



Piezoelectric Energy Harvester with Battery Backup

Reference Design - Energy Harvesting

<http://www.silabs.com/Support%20Documents/TechnicalDocs/AN588.pdf>

The energy management circuitry used for harvesting energy consists of a solar cell, which provides DC energy, a rectifier that can be used to convert AC vibration energy into DC energy, and the LTC4071 which takes in DC energy and regulates it to a constant 4.1V. The LTC4071 protects the battery from overdischarge (by disconnecting it from the circuit if its voltage gets too low) and provides a "ship mode" that disconnects the battery during shipping and ensures its energy is held until the end user starts up the system.

Family of Shunt Battery Charger ICs

Part Number	Number of Battery Cells (Series)	Maximum Charge Current (A)	Input Voltage (V)	Battery Charger Type	Low Battery Disconnect	Package (mm x mm)
LTC4070	1	0.05	Unlimited	Shunt	No	2 x 3 DFN-8, MSOP-8E
LTC4071	1	0.05	Unlimited	Shunt	Yes	2 x 3 DFN-8, MSOP-8E