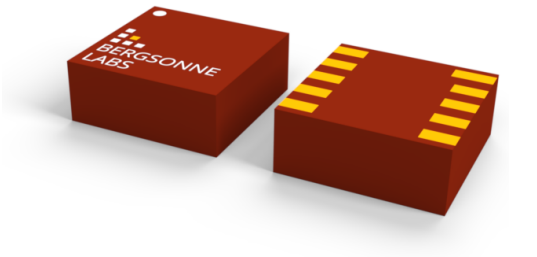
Power.L.1T

single-cell Li-Ion charge controller with adjustable LDO output

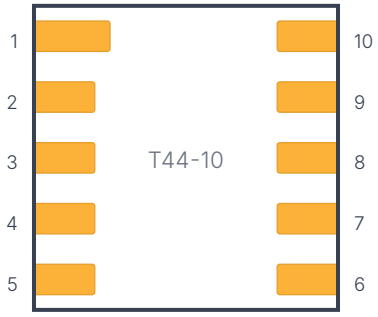
Perfect for wearables and compact battery-powered devices, the Power.L1.T tile integrates a single-cell Lithium-Ion battery charger with a max charge current of 500mA with a programmable LDO output and a 12-bit ADC for battery and system monitoring.



Overview

Revision	b
Package	T44-10
Power	0.6–3.7V (system) [output] (adjustable; 1.8V power-on default), 3.4–5.5V (charge), 3.6–4.6V (rechargeable battery)
Component	BQ25150
Interfaces	I2C

Pad Assignments



(top view)

PAD	TYPE	FUNCTION	NOTE
1	power	GND	
2	digital	LP	drive greater than 1.35V to exit low-power mode when in battery-powered mode (internal 900k pull-down).
3	digital	SW	connect to GND to disable the LDO output (battery charging will be unaffected).
4	digital	I2C.CLK	
5	digital	I2C.DAT	
6	power	BATT-	
7	power	BATT+	
8	power	SUPPLY+	3.15-5.5V, up to 500mA
9	power	SUPPLY-	
10	power	V+	1.8V, up to 10mA

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Interfaces

I2C

I2C

Mode: slave

Address: 0x6B (default)
Format: 7-bit addr, 8-bit data

FUNCTION	REQ	PAD(S)
I2C.CLK	Yes	4
I2C.DAT	Yes	5

Application Notes

Existing Ship Mode
When a battery is first connected, the IC will enter the ultra-low-current ship mode, which it will exit when voltage is first applied to the SUPPLY pads. Ship mode can be re-entered either programmatically or by disconnecting/reconnecting the battery.

Normally-On Operation
When the SW pad is floating, the LDO output will be connected. Connect SW to GND/SUPPLY- to turn off the output.

Low-Power Mode
In the default low-power mode, the I2C interface is disabled. To exit low-power mode, drive the LP to greater than 1.35V.

adjustable LDO output
The LDO output can supply up to 150mA in a range from 0.6-3.7V in 0.1V steps. The power-on default output is set to 1.8V, and can be adjusted by writing to the LDOCTRL register.

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