Fuel Gauge IC for Li-ion Battery
Monolithic IC MM3556

Outline

The MM3556 is installed on boards within products that operate using batteries.
The MM3556 measures the voltage and temperature of battery packs to predict the relative charging rate %.
The relative charging rate % under various conditions can be predicted smoothly and with a high level of precision using Mitsumi's proprietary algorithms. This helps extend the continuous operating time of mobile devices. Current detection resistant is not required, and the built-in thermistor temperature detection circuit and OTP memory help to reduce battery level detection costs of mobile devices.

Features

(1) Remaining battery level is calculated very precisely and smoothly only with voltage and temperature

(2) Current sensing resistor is not required and the cost and space can be reduced

(3) Detection circuit of thermistor temperature in battery pack incorporated

(4) Parameter can be stored in built-in OTP

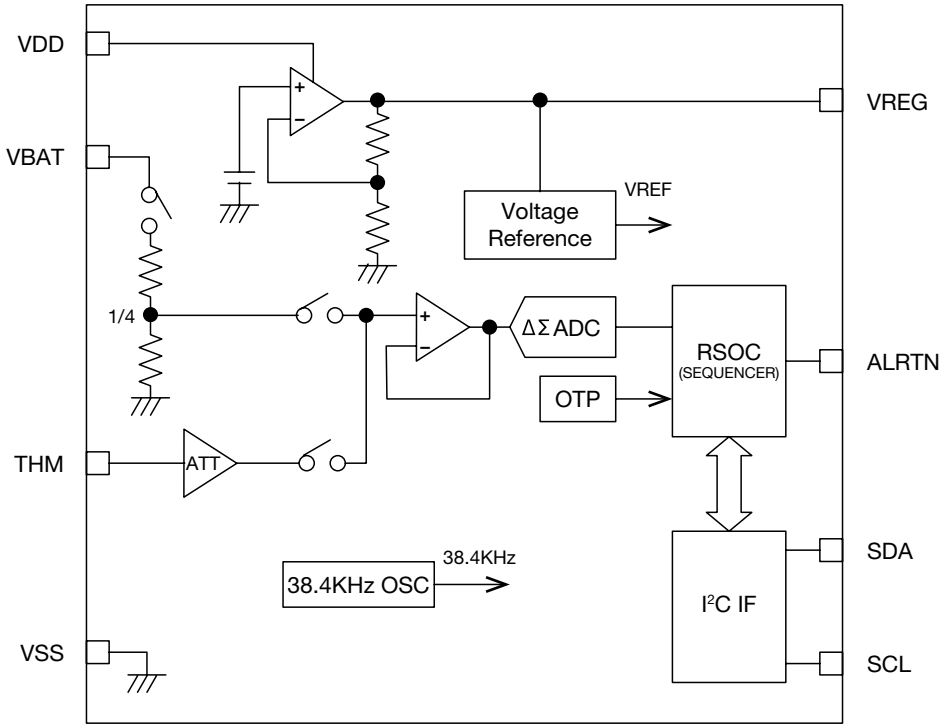
Package

PLP-8F

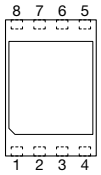
Applications

1. Smart phone
2. Mobile phone
3. Digital camera
4. Mobile devices

Block Diagram



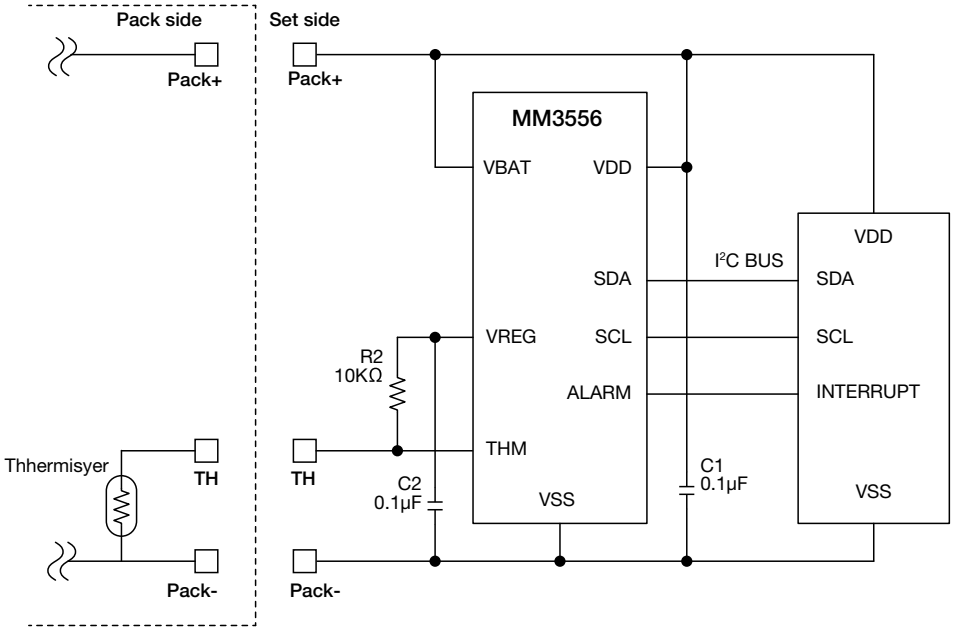
Pin Assignment

Top view PLP-8F	Pin No.	In/Out	Symbol	Function
	1	OUT	VREG	Regulator output pin
	2	IN	VBAT	Pin for measurement of battery voltage
	3	–	VDD	Power supply pin
	4	–	VSS	Power supply pin
	5	OUT	ALRTN	Alert output pin
	6	IN	THM	External temperature input pin
	7	IN	SCL	I^2C clock input
	8	IN/OUT	SDA	I^2C data output

Electrical Characteristics (Except where noted otherwise Ta=25°C)

Item	Symbol	Measurement conditions	Min.	Typ.	Max.	Units
Operating temperature range	Topr		–20		85	°C
Operating voltage	VOP		2.2		5.5	V
Current consumption	Iactive			28	45	µA
Accuracy of voltage sensor	Vaerr	VDD=3.7V		2		mV
Communication I/F	fSCL				400	kHz

Application Circuit



Prediction of the remain of a battery

When the smartphone load model is discharged Precise prediction under actual use