

2-Cell LiFePO4/Li-ion/Polymer Battery Packs Protection ICs

Datasheet Brief

PRELIMINARY DATASHEET

DESCRIPTION

FH7214 Series is a protection IC for 2 serial-cell LiFePoe4 / Li-ion / Li-polymer recharge able batteries and includes high accuracy voltage detection circuits and delay circuits.

FH7214 Series is suitable for protecting 2 serial-cell rechargeable LiFePoe4 / Li-ion / Li-polymer battery packs from overcharge, over-discharge, over-current and short-circuiting.

Package Type

- 6-pin SOT23-6

APPLICATIONS

- Power Tools
- E-Bike
- Power Bank
- Power Amplifier
- 2 Cell LiFePoe4 / Li-ion or Li-polymer rechargeable battery pack

Typical Application Circuit

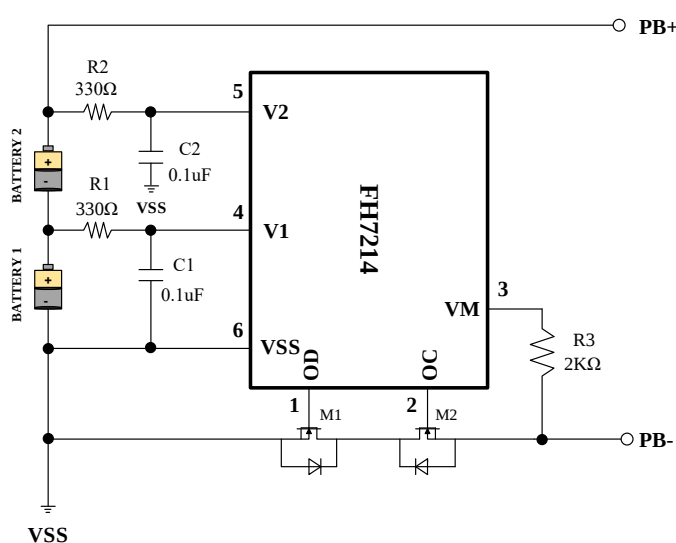
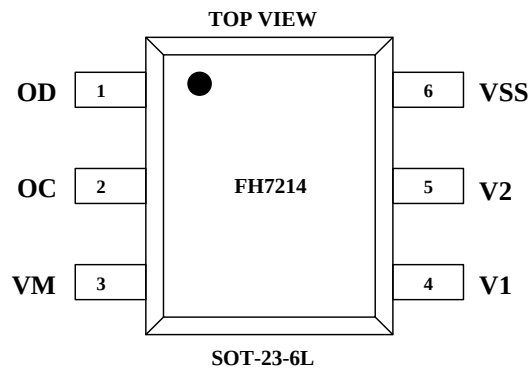


Figure 1. Typical Application Circuit

KEY FEATURES

- Manufactured with High Voltage Tolerant Process Maximum Rating 30V
- Low supply current
- 2-Cell total voltage 7.2V (Typ.) 7.0μA(I_{OP})
- 2-Cell total voltage 4.0V (Typ.) 2.5μA(I_{DP})
- Variety of detector threshold
- Over-charge detector threshold - V_{CU}: 3.6V ~ 4.5V step of 0.1V (±25mV)
- Over-charge Release Voltage - V_{CL}=V_{CU}-0.2V (±50mV)
- Over-discharge detector threshold V_{DL}: 2.1V ~ 3.0V step of 0.1V (±80mV)
- Over-discharge Release Voltage - V_{DR} (±100mV)
- Discharge-current threshold 1: 0.2V
- Short detector threshold: 1.0V (Fixed)
- Charge-current threshold: -0.2V
- Over-discharge self-recovery function
- Broken line protection function
- Over-charge detector Output Delay: 1s
- Over-discharge detector Output Delay: 100ms
- Discharge-current detector Output Delay: 10ms
- Charge-current detector Output Delay: 10ms
- Short Circuit detector Output Delay: 130μs
- 0V Battery Charging Function (can choose to "allow" or "forbide")
- SOT-23-6L Package
- Operation temperature range: -40°C ~ +85°C
- RoHS Compliant and Lead Pb Free

PIN CONFIGURATION

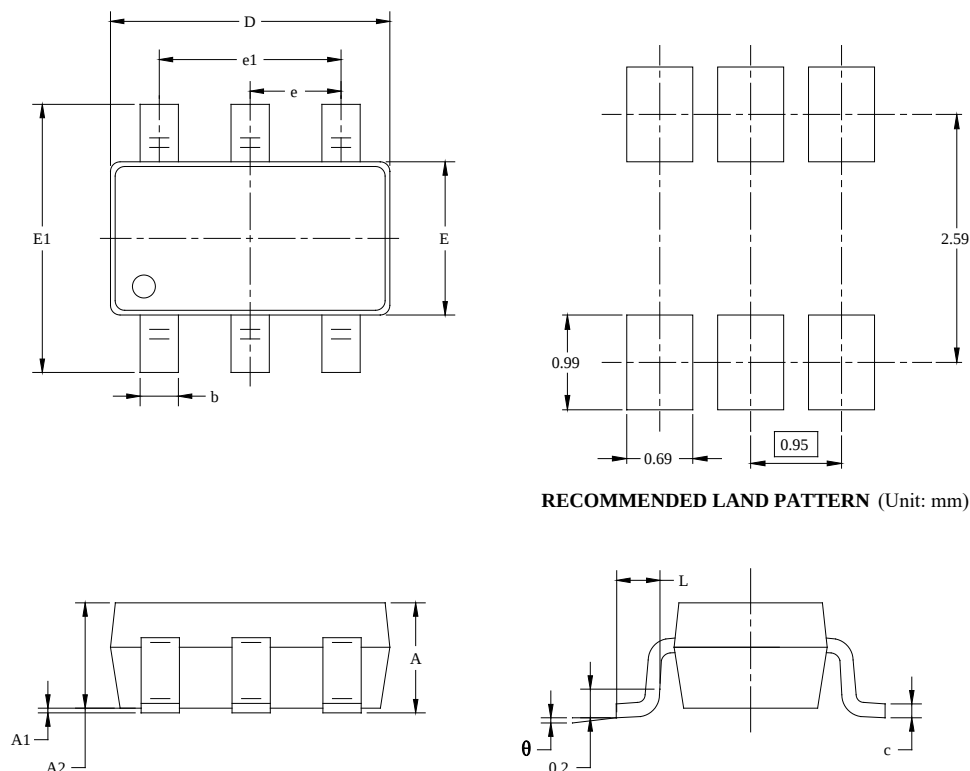


PIN DESCRIPTION

PIN NUMBER	PIN NAME	PIN DESCRIPTION
1	OD	Connection pin of discharge control FET gate (CMOS output)
2	OC	Connection pin of charge control FET gate (CMOS output)
3	VM	Voltage detection pin between VM pin and VSS pin (Overcurrent / charger detection pin)
4	V1	Positive terminal Pin for Cell-1 & negative terminal Pin for Cell-2
5	V2	Positive terminal Pin for Cell-2, VDD pin for the IC
6	VSS	Ground, negative input Pin , negative terminal Pin for Cell-1

PACKAGE OUTLINE DIMENSIONS

- Type: SOT-23-6L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

ORDERING INFORMATION

Part Number	OCV [VCU] (V)	OCR _V [VCL] (V)	ODV [VDL] (V)	ODR _V [VDR] (V)	Operating Temperature	Package Type	Top Mark	SPQ
FH7214AM6	3.65±25mV	3.45±50mV	2.10±80mV	2.50±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214BM6	4.25±25mV	4.05±50mV	2.80±80mV	3.00±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214CM6	4.28±25mV	4.08±50mV	2.90±80mV	3.00±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214DM6	4.28±25mV	4.08±50mV	2.80±80mV	3.00±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214EM6	4.28±25mV	4.08±50mV	2.40±80mV	2.95±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214FM6	4.38±25mV	4.18±50mV	2.40±80mV	2.60±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel
FH7214GM6	4.425±25mV	4.225±50mV	2.50±80mV	2.70±100mV	-40°C to +85°C	SOT-23-6L	YWT _ _ _	3000EA/Reel

Note:

- FH7214A | FH7214B | FH7214C | FH7214D | FH7214E | FH7214F | FH7214G | devices are Pb-free and RoHs compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice.
- If you have any other custom purchase needs, please contact our sales department.
- FOCMCU Inc. reserves the right to amend and legally interpret the electrical parameters of this chip device. (<http://www.fordevices.com>)

Device Name: SOT-23-6L

