2.0A，开关型降压模式4.2V/4.35V(锂电池)｜3.6V(铁锂电池)充电管理

PRELIMINARY DATASHEET

器件概述

FH5207x是一款开关降压型单节锰锂电池/磷酸铁锂电池充电管理芯片。其QFN 4*4-16L超小型封装，以及ESOP-8L的封装与简单的外围电路，使得FH5207x非常适用于便携式设备的大电流充电管理应用。同时，电管理应用。同时，FH5207x内置输入过流、欠压保护、芯片过温保护、短路保护、电池温度监控、输入电源过高停机OVP功能。

FH5207x具有宽输入电压，对电池充电分为涓流预充、恒流、恒压三个阶段，涓流预充电电流（QFN 4*4-16L）恒流充电电流都通过外部电阻调整，最大充电电流达2A。

FH5207x采用频率800kHz的开关工作模式使它可以使用较小的外围器件，并在大电流充电中仍保持较小的发热量。FH5207x内置功率MOSFET、防倒灌电路，所以无需防倒灌肖特基二极管等外围保护。

FH5207x恒流功能(QFN 4*4-16L)，也可以用在2串锂电池或4串干电池输入，恒流驱动0.5~7.0W 白光LED。

绝对最大额定值

- 输入电源电压(VIN):12.0V
- BAT: -4.2V～9.0V
- BAT短路持续时间：连续
- 最大结温：145℃
- 工作环境温度范围：-40℃～85℃
- 贮存温度范围：-65℃～125℃
- 引脚温度（焊接时间10秒）：260℃

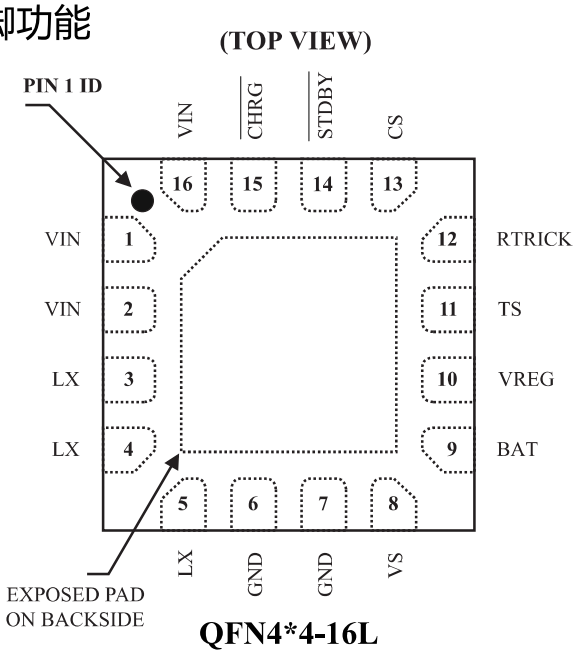
主要特性

- 单节4.2V锰锂或3.6V磷酸铁锂电池，ESOP-8L封装包含两种电压规格分别为:4.2V、4.35V
- 内置功率MOSFET，开关型工作模式，器件发热少，外围简单
- 电源自适应
- 输入电源OVP功能
- 可编程充电电流，0.1A ~ 2.0A
- 可编程预充电电流，10% ~ 100% (QFN 4*4-16L)
- 无需外接防倒灌肖特基二极管
- 宽工作电压，最大达到9.0V
- 两路LED充电状态指示
- 芯片温度保护／过流保护／欠压保护
- 电池温度保护／电池反接停机／短路保护
- 开关频率800kHz，可用电感:2.2uH ~ 10uH
- 充满停机电压精度控制:小于1%
- 涓流／恒流／恒压三段充电，保护电池
- 封装形式:QFN-4mm*4mm 16PIN /ESOP 8PIN

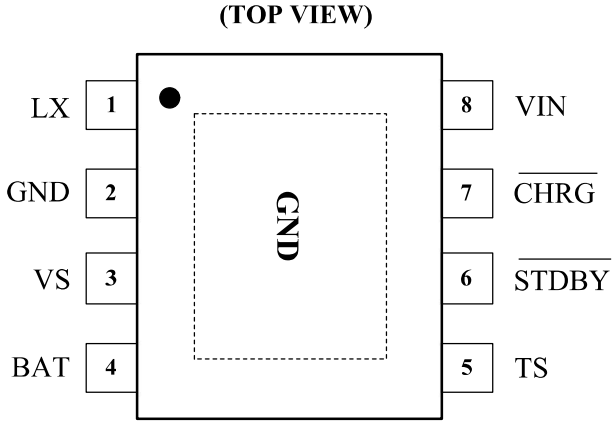
应用领域

- 便携式设备、各种充电器
- 智能手机、PDA、 移动蜂窝电话
- MP4、MP5播放器、平板电脑
- 应急照明
- 电动工具
- 白光LED驱动（QFN 4*4-16L）

引脚功能



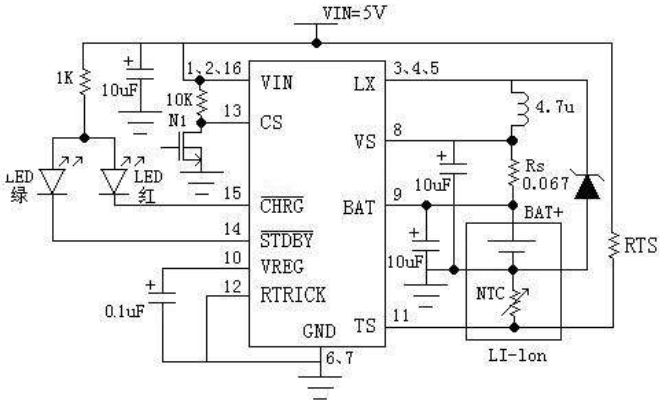
QFN4*4-16L



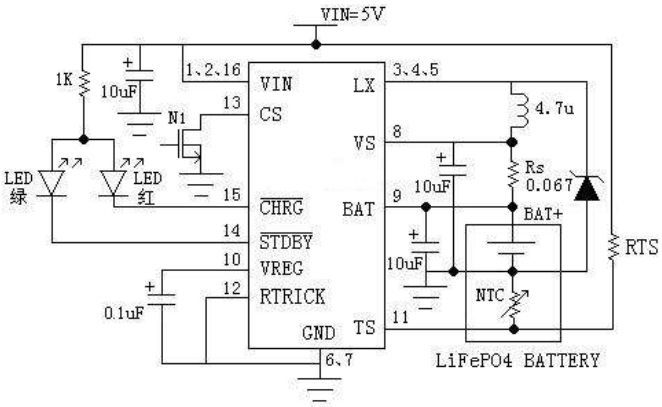
ESOP-8L (Exposed Pad)

典型应用

QFN4*4-16L 应用电路图

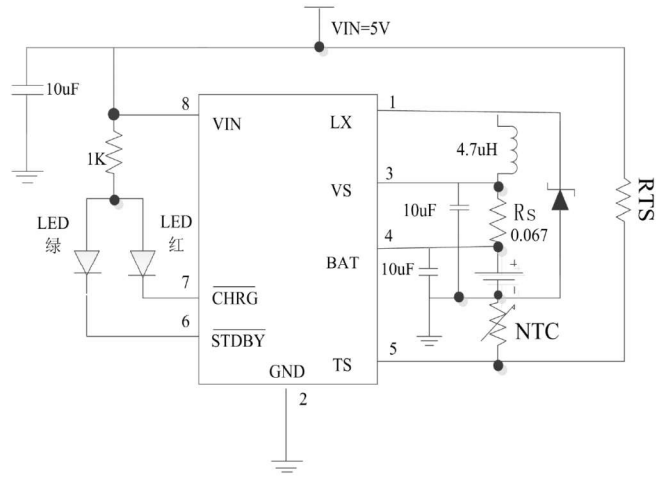


图一、FH5207x 为4.2V/1.5A锂电池充电充电电流(150mA预充)，应用示意图

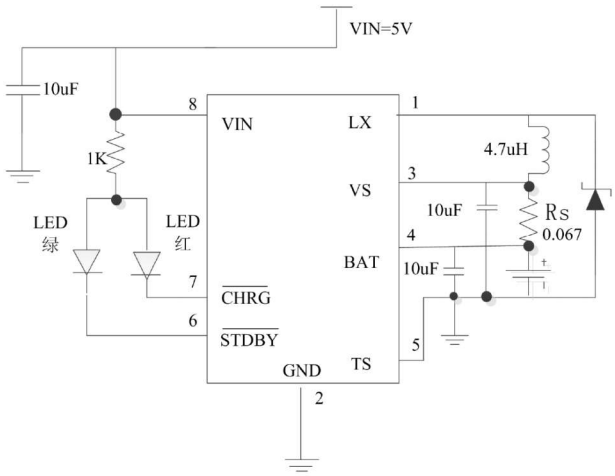


图二、FH5207x 为3.6V/1.5A 磷酸铁锂电池充电充电电流(150mA预充)应用示意图

ESOP-8L 应用电路图



图三、FH5207x 为4.2V/1.5A锂电池充电充电应用示意图

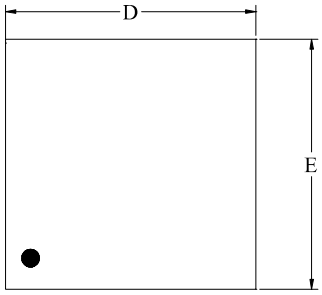


图四、FH5207x 为4.2V/1.5A锂电池充电充电应用示意图

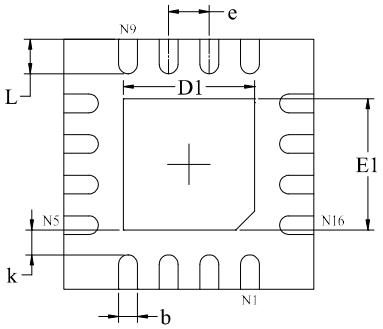
(与图三相比，TS端接地，电池温度检测功能取消)

PACKAGE INFORMATION

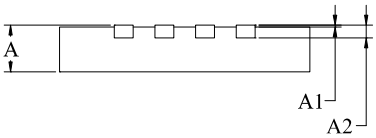
QFN16 (4 x 4mm)



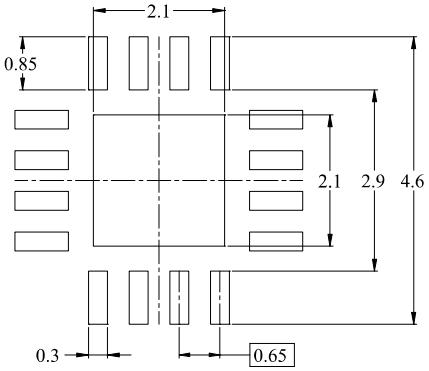
TOP VIEW



BOTTOM VIEW



SIDE VIEW

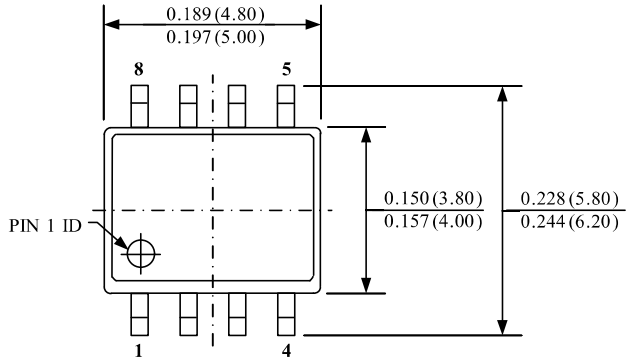


RECOMMENDED LAND PATTERN (Unit: mm)

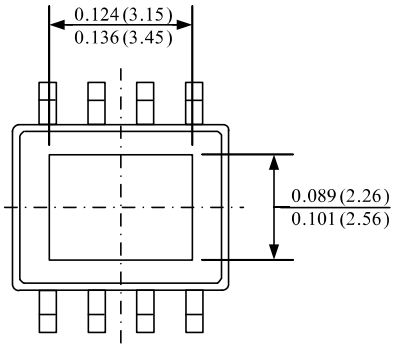
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A2	0.203 REF		0.008 REF	
D	3.900	4.100	0.154	0.161
D1	2.000	2.200	0.079	0.087
E	3.900	4.100	0.154	0.161
E1	2.000	2.200	0.079	0.087
k	0.200 MIN		0.008 MIN	
b	0.250	0.350	0.010	0.014
e	0.650 TYP		0.026 TYP	
L	0.450	0.650	0.018	0.026

PACKAGE INFORMATION

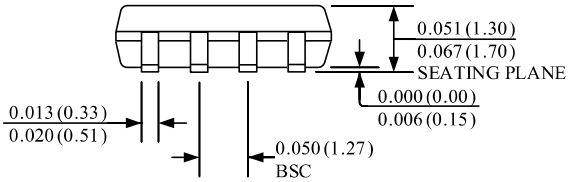
ESOP-8L



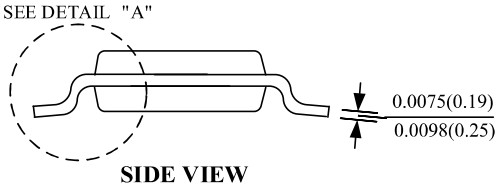
TOP VIEW



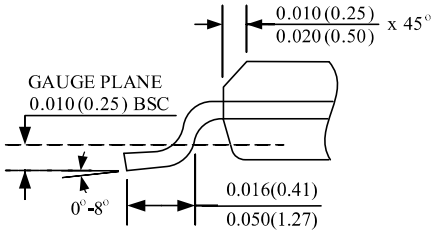
BOTTOM VIEW



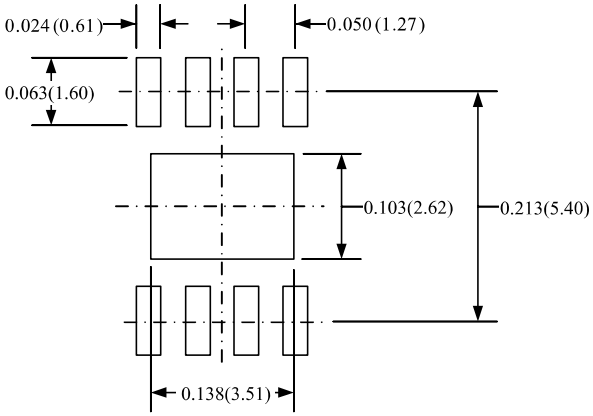
FRONT VIEW



SIDE VIEW



DETAIL"A"



RECOMMENDED LAND PATTERN

NOTE:

1) CONTROL DIMENSION IS IN INCHES . DIMENSION IN BRACKET IS IN MILLIMETERS .
2) PACKAGE LENGTH DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS , OR GATE BURR .
3) PACKAGE WIDTH DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSIONS .
4) LEAD COPLANARITY (BOTTOM OF LEADS AFTER FORMING) SHALL BE 0.004 INCHES MAXIMUM.
5) DRAWING CONFORMS TO JEDEC MS-012 , VARIATION BA.
6) DRAWING IS NOT TO SCALE.

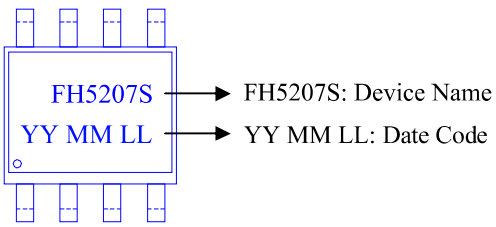
ORDERING INFORMATION

Part Number	Input Voltage	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH5207AD16	4.0V ~ 9.0V	● Li-ion Battery Switch Charger ● Preset Voltage: 4.20V ● C/10 Charge Termination ● Switch frequency: 800kHz ● Output Current: 2.0A	-40°C to +85°C	QFN4*4-16L	FH5207A Y W L	5000EA/Reel
FH5207BD16	4.0V ~ 9.0V	● Li-ion Battery Switch Charger ● Preset Voltage: 4.35V ● C/10 Charge Termination ● Switch frequency: 800kHz ● Output Current: 2.0A	-40°C to +85°C	QFN4*4-16L	FH5207B Y W L	5000EA/Reel
FH5207CD16	4.0V ~ 9.0V	● LiFePO4 Battery Switch Charger ● Preset Voltage: 4.35V ● C/10 Charge Termination ● Switch frequency: 800kHz ● Output Current: 2.0A	-40°C to +85°C	QFN4*4-16L	FH5207C Y W L	5000EA/Reel
FH5207AS8	4.0V ~ 9.0V	● Li-ion Battery Switch Charger ● Preset Voltage: 4.20V ● C/10 Charge Termination ● Switch frequency: 800kHz ● Output Current: 2.0A	-40°C to +85°C	ESOP-8L	FH5207A Y W L	4000EA/Reel
FH5207BS8	4.0V ~ 9.0V	● Li-ion Battery Switch Charger ● Preset Voltage: 4.35V ● C/10 Charge Termination ● Switch frequency: 800kHz ● Output Current: 2.0A	-40°C to +85°C	ESOP-8L	FH5207B Y W L	4000EA/Reel

Note:

- **FH5207A/FH5207B/FH5207C** 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: ESOP-8L



Device Name: DFN4*4-16L