

高精度、低功耗，I²C 接口通信实时时钟/日历芯片

简化数据手册

PRELIMINARY DATASHEET

器件概述

FH8563H 是低功耗 CMOS 实时时钟/日历芯片，它内置一个包括世纪、年月日时分秒的计时器，在电路中起到钟表的作用。系统可以设置和读取 FH8563H 中存放的当前时间，从而对数据进行相应处理（例如计费、显示、记录等）。

FH8563H 通过先进的 I2C 总线接口与系统之间串行传送数据，最大限度减少了电路板上的布线数目，非常适合于复杂系统。I2C 总线的从地址为：0xA3（读数据）、0xA2（写数据）。最大总线速度为 400Kbits/s，每次读写数据后，内嵌的字地址寄存器会自动递增，可以实现连续读写功能。

FH8563H 可应用于移动电话等通讯产品、便携仪器、电信计费、考勤机、电脑主板、微机外设.....等等一切与计时有关的电子产品中。

简化应用示意图

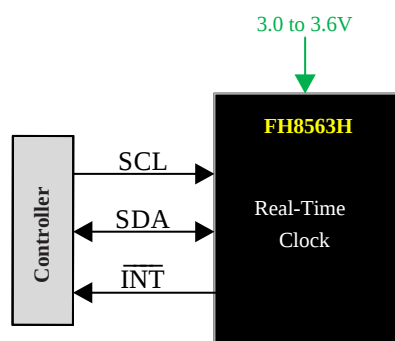
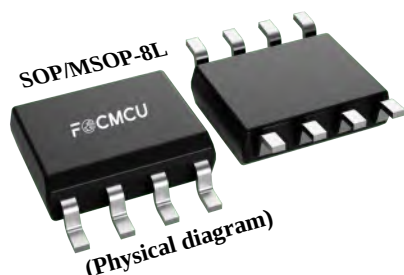


图1、简化应用示意图



电气特性

- 宽工作电压范围：1.0 ~ 5.5V
- 低休眠电流典型值为 0.25μA ($V_{DD}=3.0V$, $T_{amb}=25^{\circ}C$)
- 具有世纪标志，可工作于 1900-2099 年
(年份与世纪相关，主要用于计算闰年时二月的天数)
- 最高频率达 400kHz 的 I²C 总线接口 ($V_{DD}=1.8 \sim 5.5V$ 时)；
读地址为 0xA3H，写地址为 0xA2H
- 频率可编程的时钟输出 (32.768kHz/1024Hz/32Hz/1Hz 可选)
- 内含报警和定时器
- 低电压检测功能和加电复位失效功能
- 中断引脚开漏输出
- 封装形式：SOP-8L、MSOP-8L
- 器件工作温度：-30 ~ +85°C

Device Information ⁽¹⁾

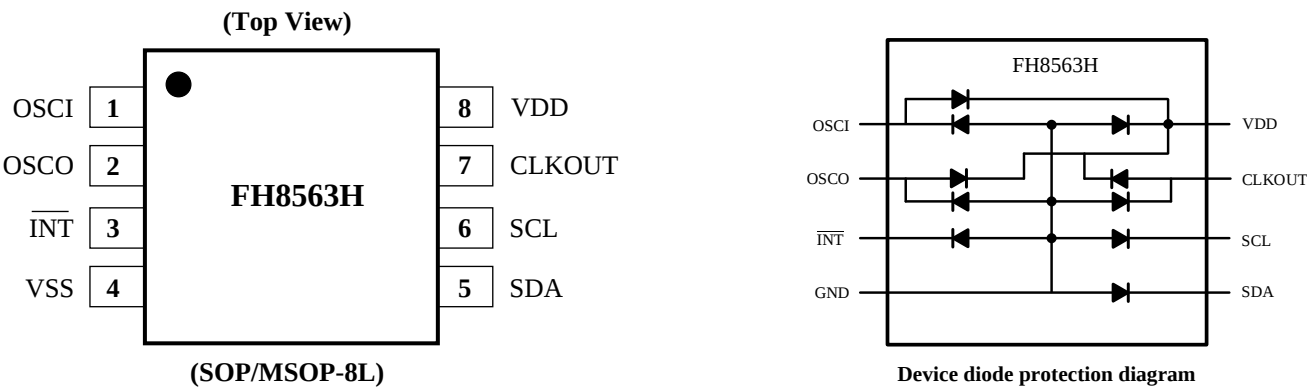
PART NUMBER	PACKAGE	BODY SIZE (NOM)
FH8563S8H	SOP (8L)	4.90mm × 3.91mm
FH856MS8H	MSOP (8L)	4.75mm x 2.90mm

(1) For all available packages, see the orderable addendum at the end of the data sheet.

应用领域

- 电池电源产品
- 便携、手持设备
- 复费率电度表、IC 卡水表、IC 卡煤气表
- 安防设备、门禁系统
- 行驶记录仪
- 万年日历、显示屏、广告机

引脚分布

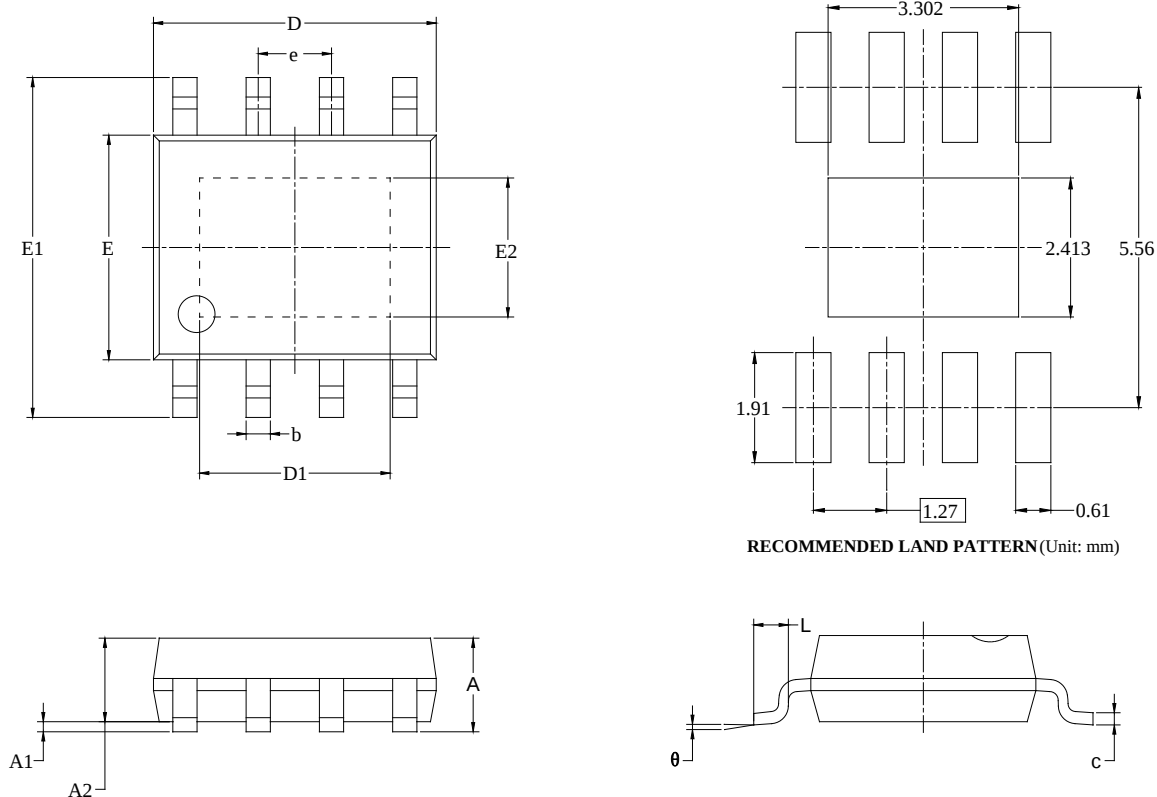


引脚功能

引脚序号	符号	I/O	功能描述
1	OSCI	I	振荡器输入
2	OSCO	O	振荡器输出
3	INT	O	中断输出（开漏；有效 LOW），根据控制寄存器来设置其工作的模式，它可通过重写控制寄存器来禁止
4	VSS	/	接地
5	SDA	I/O	串行数据输入和输出，串行数据输入/输出脚，此管脚通常用一电阻上拉至 VDD，并与其它漏极开路或集电极开路输出的器件通过线与方式连接
6	SCL	I	串行时钟输入，由于在 SCL 上升/下降沿处理信号，要特别注意 SCL 信号的上升/下降时间，应严格遵循数据手册
7	CLKOUT	O	时钟输出、开漏，32.768KHZ 方波信号输出
8	VDD	I	电源电压

■ Package

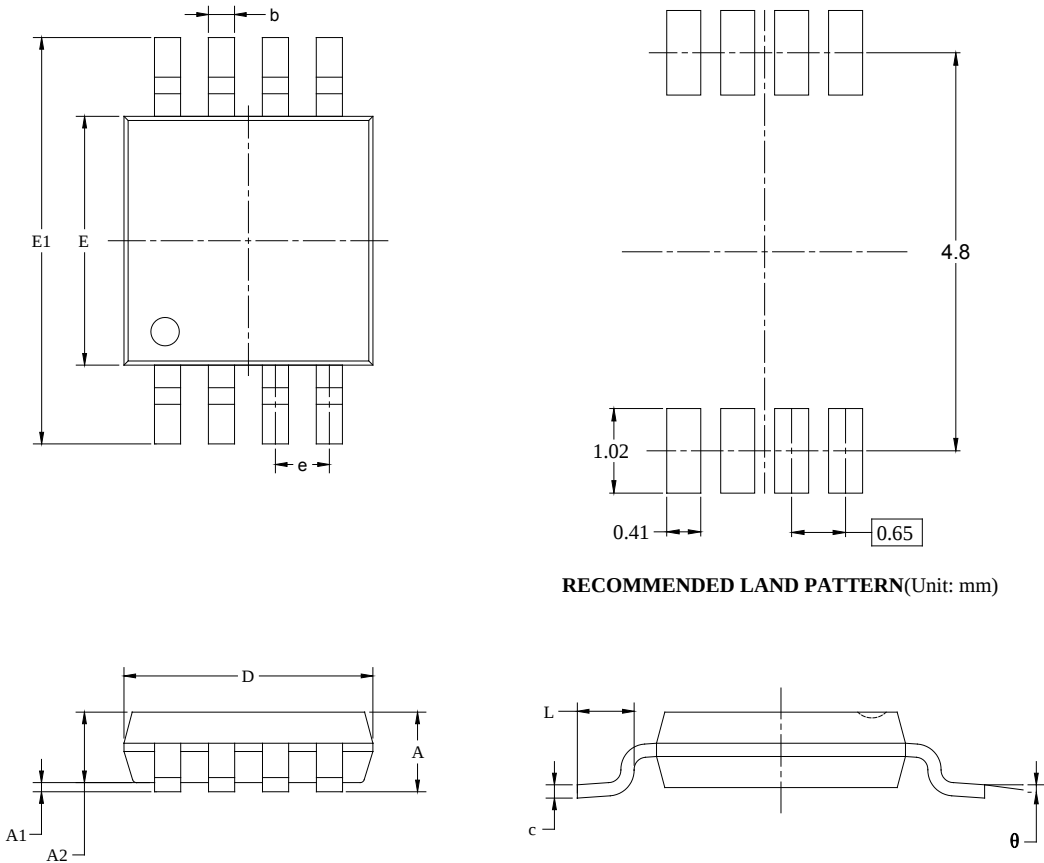
- Type: SOP-8L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.700		0.067
A1	0.000	0.100	0.000	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
E2	2.313	2.513	0.091	0.099
e	1.27 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

Package

- Type: MSOP-8L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.820	1.100	0.032	0.043
A1	0.020	0.150	0.001	0.006
A2	0.750	0.950	0.030	0.037
b	0.250	0.380	0.010	0.015
c	0.090	0.230	0.004	0.009
D	2.900	3.100	0.114	0.122
E	2.900	3.100	0.114	0.122
E1	4.750	5.050	0.187	0.199
e	0.650 BSC		0.026 BSC	
L	0.400	0.800	0.016	0.031
θ	0°	6°	0°	6°

ORDERING INFORMATION

Part Number	Operating Voltage	Output Function	Operating Temperature	Package Type	Top Mark	SPQ
FH8563S8H	1.8V~5.5V	• CMOS real time clock/calendar • Provides Year, Month, Day, Weekday, Hours, Minutes and Seconds Information	-30°C to +85°C	SOP-8L	8563T HM <u>YML</u>	3000EA/Reel
FH8563MS8H	1.8V~5.5V	• I²C-bus interface • Low power consumption	-30°C to +85°C	MSOP-8L	8563S HM <u>YML</u>	3000EA/Reel

Note:

- **FH8563H** 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>)



ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.



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