Ultra-Small Built-In Delay High-Precision Voltage Detector

Features

Low power consumption
Low temperature coefficient
Built-in delay circuit: 200ms
High input voltage (up to 8V)
Output voltage accuracy: tolerance ±2%
SOT23 Package

Applications

Microprocessor reset circuitry
Memory battery back-up circuits
Power on reset circuits
System battery life and charge voltage monitors
Delay circuitry
Power failure detection

General Description

The FS8819 series are highly accurate, low powerconsumption voltage detectors, manufacturedusing CMOS and laser trimming technologies. Adelay circuit is built-in to each detectors. Detectvoltage is extremely accurate with minimaltemperature drift.Both CMOS and N-ch open drain output configurations are available. Since the delay circuit is built-in, peripherals are unnecessary and high density mounting is possible.

Selection Table

Part No	Detectable Voltage	Delay Time	Tolerance	Package
FS8819Y-xxxXXX	4.63V	200ms	±2%	SOT23
FS8819Y-xxxXXX	4.38V		±2%	
FS8819Y-xxxXXX	4.00V		±2%	
FS8819Y-xxxXXX	3.08V		±2%	
FS8819Y-xxxXXX	2.93V		±2%	
FS8819Y-xxxXXX	2.63V		±2%	

Note: ”Y” is CMOS or NMOS output. ”xxx” stands for detectable voltages. ”XX” stands for package.

Ordering Information

FS8819①②③④⑤⑥⑦

DESIGNATOR	SYMBOL	DESCRIPTION
①	Pin Type:	A: Normal; B: B-Type
②③④	Output Detection Voltage	… .200=2.0V, 250=2.5V, 263=2.63V 293=2.93V％0.1V step） …… .
⑤	Type of output	N: Nch pen-drain, C: CMOS output
⑥⑦	Package Type:	SI: SOT23

● Absolute Maximum Ratings

Item	Symbol	Absolute maximum ratings	Unit
Power supply voltage	V_{DD}	$V_{SS}-0.3 \sim V_{SS}+8$	V
Operating ambient temperature	Topr	$-30 \sim +80$	°C
Storage temperature	Tstg	$-40 \sim +125$	°C

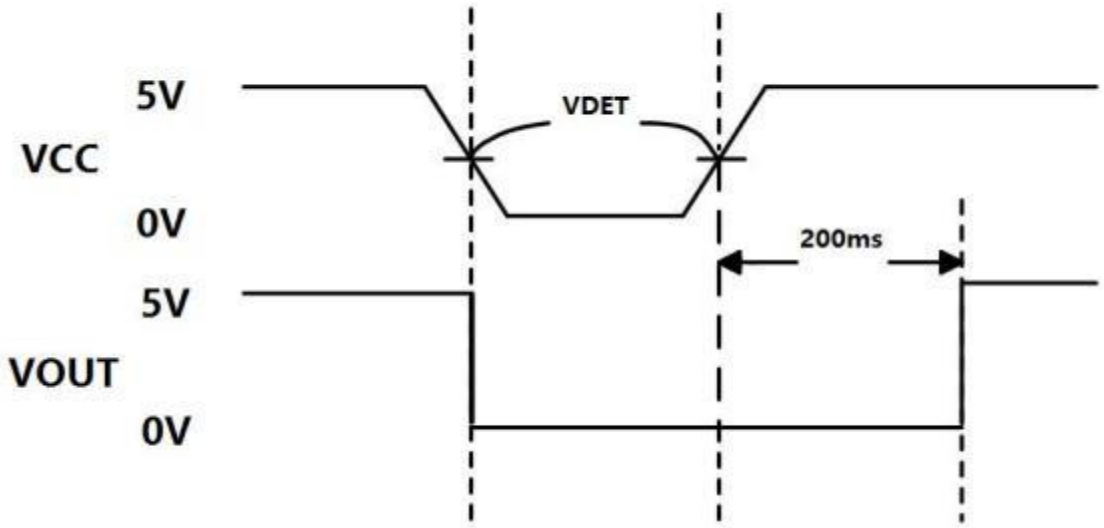
Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

● Thermal Information

Symbol	Parameter	Package	Max.	Unit
θJA	Thermal Resistance (Junction toAmbient) (Assume no ambientairflow, no heat sink)	SOT23	250	C/W
PD	Power Dissipation	SOT23	0.20	W

Note: P_D is measured at Ta= 25℃

● Timing Chart

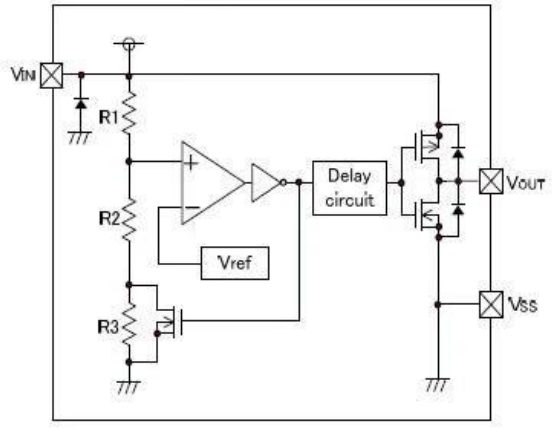


- **Electrical Characteristics** @ (T_A=25°C, unless otherwise specified)

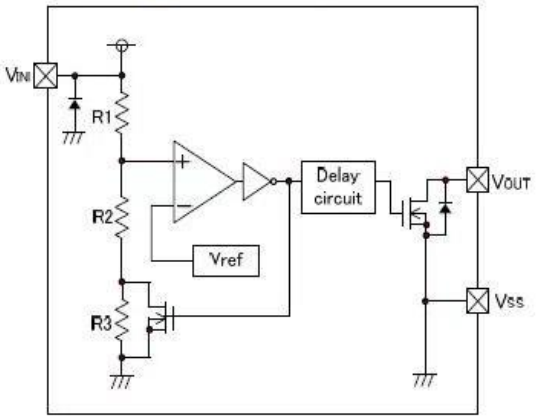
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Reset Threshold	VDET	Ta=25℃	4.56	4.63	4.70	V
			4.31	4.38	4.45	
			3.93	4.00	4.06	
			3.04	3.08	3.11	
			2.89	2.93	2.96	
			2.59	2.63	2.66	
Reset Threshold Stability				30		ppm/ °C
VCC to Reset Delay		VCC= VTH to VTH -100mV		20		us
Supply Current	ISS	VIN=6V，Vdet=2.63V	1	1.8	2.5	uA
Input Voltage (VCC) Range	VCC	25℃	1.2	-	7.5	V
Reset Active Timeout Period	Vol		150	200	250	ms

- **Typical Block Diagram**

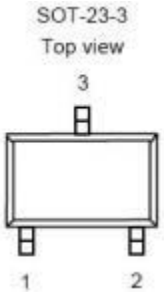
(1) CMOS output



(2) N-ch open drain output



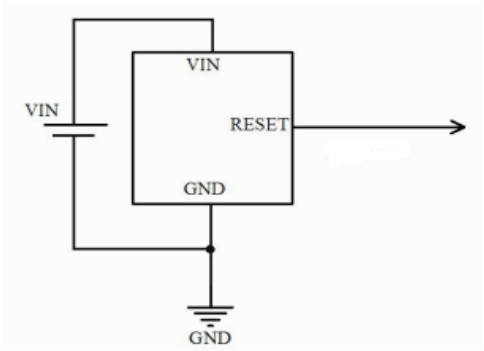
- **Pin Description**



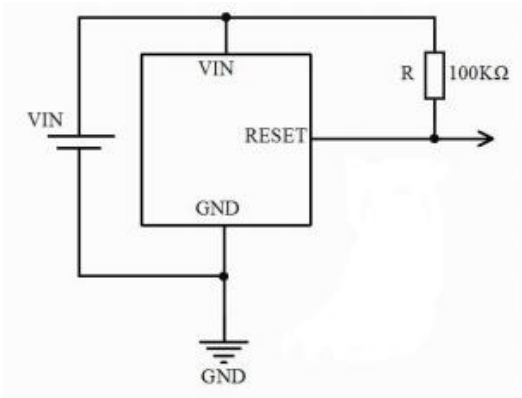
PIN NO.	A	B	Functions
1	VOUT	-	Voltage detection output pin
	-	VSS	GND pin
2	-	VOUT	Voltage detection output pin
	VSS	-	GND pin
3	VDD	VDD	Voltage input pin

● Typical Application Circuit

1、 CMOS output：



2、 Nch open-drain



● Package Information

SOT-23-3