Tiny Package µP Voltage Monitors with Manual Reset Input

CE8811 Series

Premilinary

■ Introduction

The CE8811 are low-power microprocessor (µP) supervisory circuits used to monitor power supplies in µP and digital systems. They provide excellent circuit reliability and low cost by eliminating external components and adjustments when used with 5V-powered or 3V-powered circuits. The CE8811 also provide a debounced manual reset input.

These devices perform a single function: They assert a reset signal whenever the VCC supply voltage falls below a preset threshold, keeping it asserted for at least 200ms after VCC has risen above the reset threshold. The only difference between the two devices is that the CE8811 has an active-low RESET output (which is guaranteed to be in the correct state for VCC down to 1V), while the CE8811 has an active-high RESET output.

The reset comparator is designed to ignore fast transients on VCC. Reset thresholds are available for operation with a variety of supply voltages.

■ Features

- Precision Monitoring of 3V, 3.3V, and 5V Power-Supply Voltages
- 6µA Supply Current
- 200ms Min Power-On Reset Pulse Width RESET Output
- Guaranteed RESET Valid to VCC = 1V
- Power-Supply Transient Immunity
- No External Components
- 4-Pin SOT143 & SOT23-5 Package

■ Applications

- Power monitor for portable equipment such as notebook computers, digital still cameras, PDA, and cellular phones.
- Power monitor for microcomputers and reset for CPUs.

■ Pin Configurations
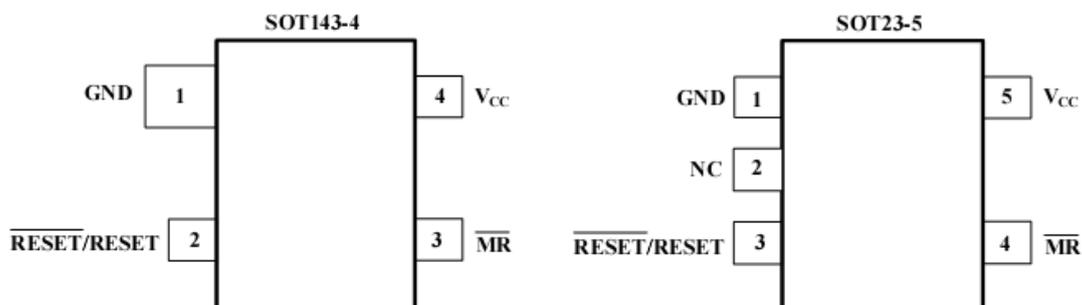
■ Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

Item		Symbol	Absolute maximum ratings	Unit
Power supply voltage		V_{DD}	$V_{SS}-0.3 \sim V_{SS}+6$	V
Output voltage		V_{OUT}	$V_{SS}-0.3 \sim V_{SS}+6$	V
Power dissipation	SOT-143	PD	200	mW
	SOT-23-5		250	mW
Operating ambient temperature		Topr	$-40 \sim +85$	°C
Storage temperature		Tstg	$-40 \sim +125$	°C

■ Electrical Characteristics

(Ta＝25°C unless otherwise specified)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Detection voltage*1	$-V_{DET}$	—	$-V_{DET(S)}$ ×0.98	$-V_{DET(S)}$	$-V_{DET(S)}$ ×1.02	V
Current consumption	I_{SS}	$V_{DD}=-V_{DET}+0.5V$	—	6	15	uA
Operating voltage	V_{DD}	—	1	—	5.5	V
Output current	I_{OUT}	NCH： $V_{OUT}=0.5$ V $V_{DD}=-V_{DET}+0.5$ V	3.0	13.0	—	mA
		CMOS： $V_{DD}-V_{OUT}=0.5$ V $V_{DD}=-V_{DET}+0.5$ V	1.5	4.0	—	mA
Leakage current	I_{LEAK}	Only for Nch open-drain output products, Nch, $V_{DD}=8.0$ V, $V_{OUT}=8.0$ V		—	0.1	uA
temperature coefficient		Ta=−40°C ～+85°C	—	±100	—	ppm/°C
Delay time 1	t_{D1}	$V_{DD}=-V_{DET}+1$ V, DS PIN Low	130	200	290	ms
Input voltage	V_{SH}	DS PIN, $V_{DD}=6.0$ V	1.5	—	—	V
	V_{SL}	DS PIN, $V_{DD}=6.0$ V	—	—	0.3	V

*1. −VDET: Actual detection voltage value, −VDET(S): Specified detection voltage value

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■ Application Circuit
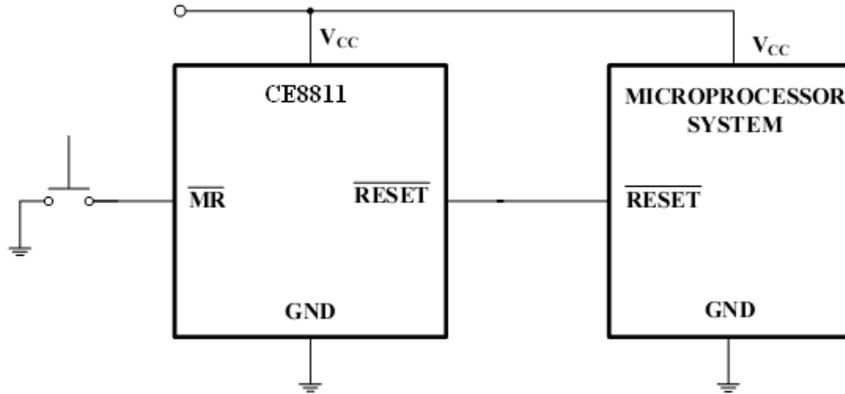
■ Package information

● SOT- 23- 5
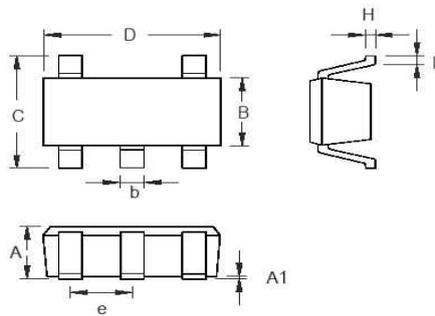
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.295	0.035	0.051
A1	0.000	0.152	0.000	0.006
B	1.397	1.803	0.055	0.071
b	0.356	0.559	0.014	0.022
C	2.591	2.997	0.102	0.118
D	2.692	3.099	0.106	0.122
e	0.838	1.041	0.033	0.041
H	0.080	0.254	0.003	0.010
L	0.300	0.610	0.012	0.024

● SOT- 143
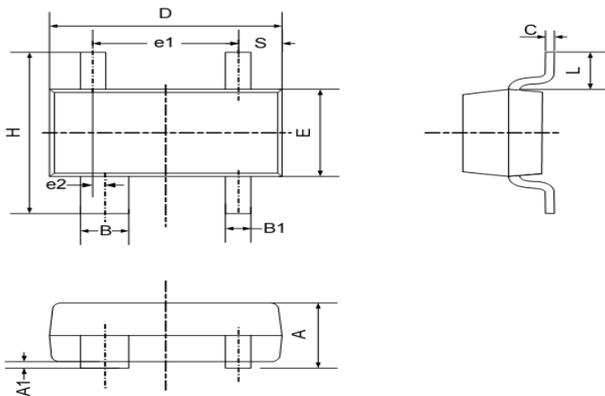
Symbol	Dimensions In Millimeters	
	Min	Max
A	0.890	1.120
A1	0.013	0.100
B	0.760	0.940
B1	0.370	0.510
C	0.085	0.180
D	2.800	3.040
E	1.200	1.400
e1	1.920 BSC	
e2	0.200 BSC	
H	2.100	2.640
L	0.55 REF	
S	0.450	0.600

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