

## Power Supply Supervisor

### General Description

The MAX809 series are highly accurate, low power consumption voltage detectors, manufactured using CMOS and laser trimming technologies. A delay circuit is built-in to each detectors. Detect voltage is extremely accurate with minimal temperature 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.



### Features

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

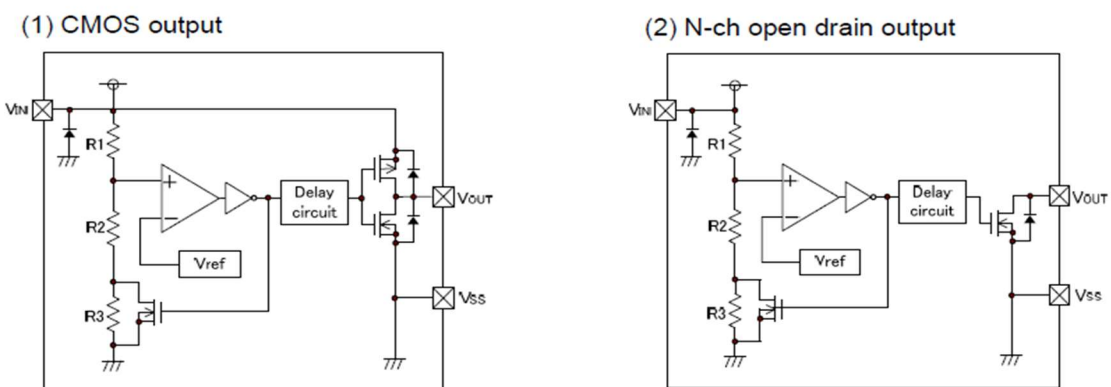
## Order Information

Part No	Mark	Detectable Voltage	Package	Devices per reel
MAX809C263	AFAA	2.63V	SOT23	3000PCS
MAX809C293	ADAA	2.93V		
MAX809C308	ACAA	3.08V		
MAX809C400	CWAA	4.00V		
MAX809C438	ABAA	4.38V		
MAX809N263	BFAA	2.63V		
MAX809N293	BDAA	2.93V		
MAX809N308	BCAA	3.08V		
MAX809N400	BWAA	4.00V		
MAX809N438	BBAA	4.38V		

Note:MAX809①②③④

Designator	Symbol	Description
①	C	CMOS output
	N	NMOS output
②	XXX	Detect voltage
③	N	Package:SOT23
④	R	RoHS/PbFree
	G	Halogen Free

## Block Diagram



## Pin Assignment

SOT23 (TOP VIEW)

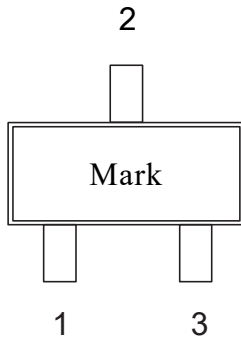


Table1 MAX809C/MAX809N series (SOT23 PKG)

Pin No.	Pin Name	Function
1	GND	GND pin
2	VIN	Input voltage pin
3	Vout/Reset	Vout/Reset pin

## Functional Description

The MAX809 series are highly accurate, low power consumption voltage detectors, manufactured using CMOS and laser trimming technologies. A delay circuit is built-in to each detectors. Detect voltage is extremely accurate with minimal temperature drift.

## Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	VIN	-0.3~8.0	V
Operating Temperature	Tamb	-30~80	°C
Storage Temperature	Tstg	-40~125	°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.

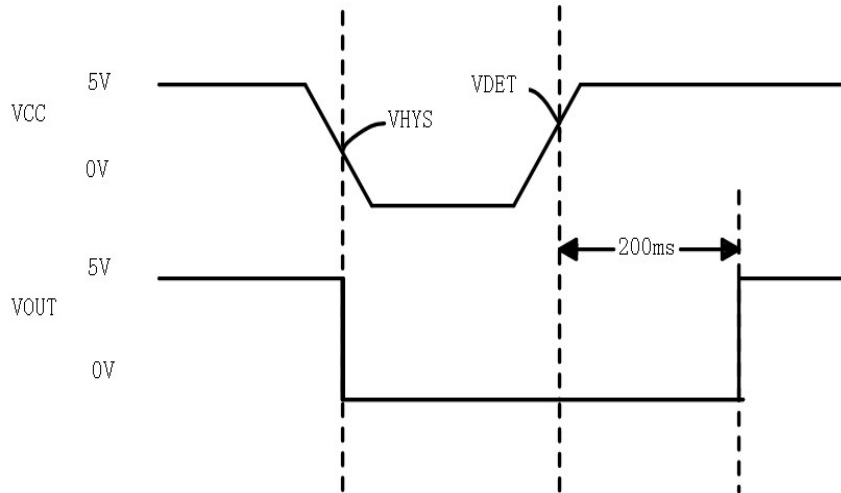
## Thermal Information

Parameter	Symbol	Max.	Unit
Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	$\theta_{JA}$	250	°C/W
Power Dissipation	P <sub>D</sub>	0.20	W

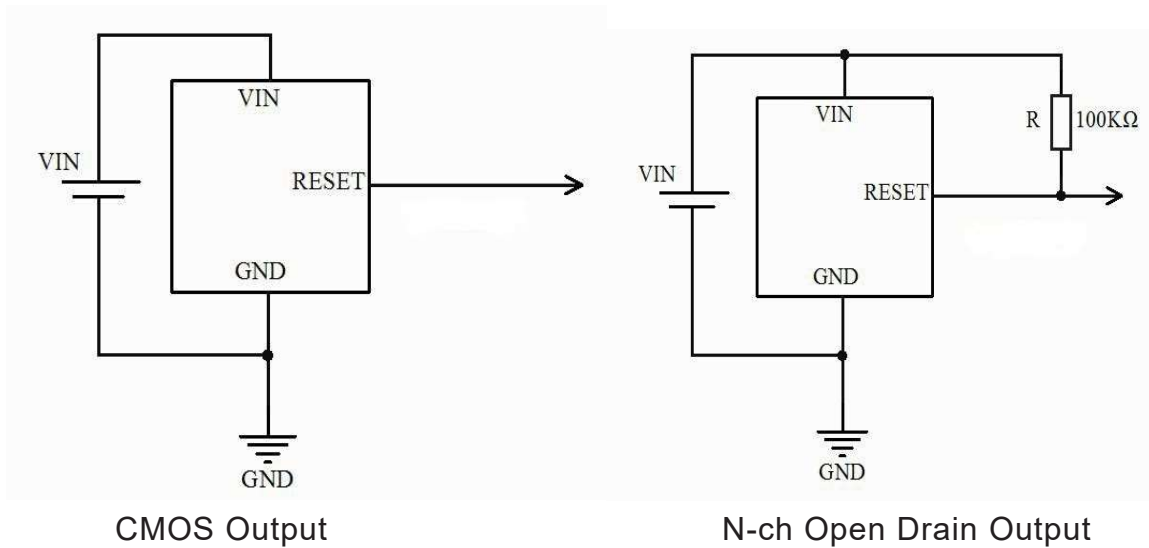
## Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage (VCC) Range	VCC	25°C	1.2		7.5	V
Supply Current	ISS	VIN=6V, Vdet=2.63V	1	1.8	2.5	μ A
Vout/Reset Threshold	VDET	TA=25°C	4.56	4.63	4.70	V
		TA=25°C	4.31	4.38	4.45	
		TA=25°C	3.93	4.00	4.06	
		TA=25°C	3.04	3.08	3.11	
		TA=25°C	2.89	2.93	2.96	
		TA=25°C	2.59	2.63	2.66	
Vout/Reset Threshold Stability				30		Ppm/ °C
VCC to Vout/Reset Delay		VCC=VTH to VTH - 100mV		20		us
Vout/Reset Active Timeout Period	VOL			200		ms

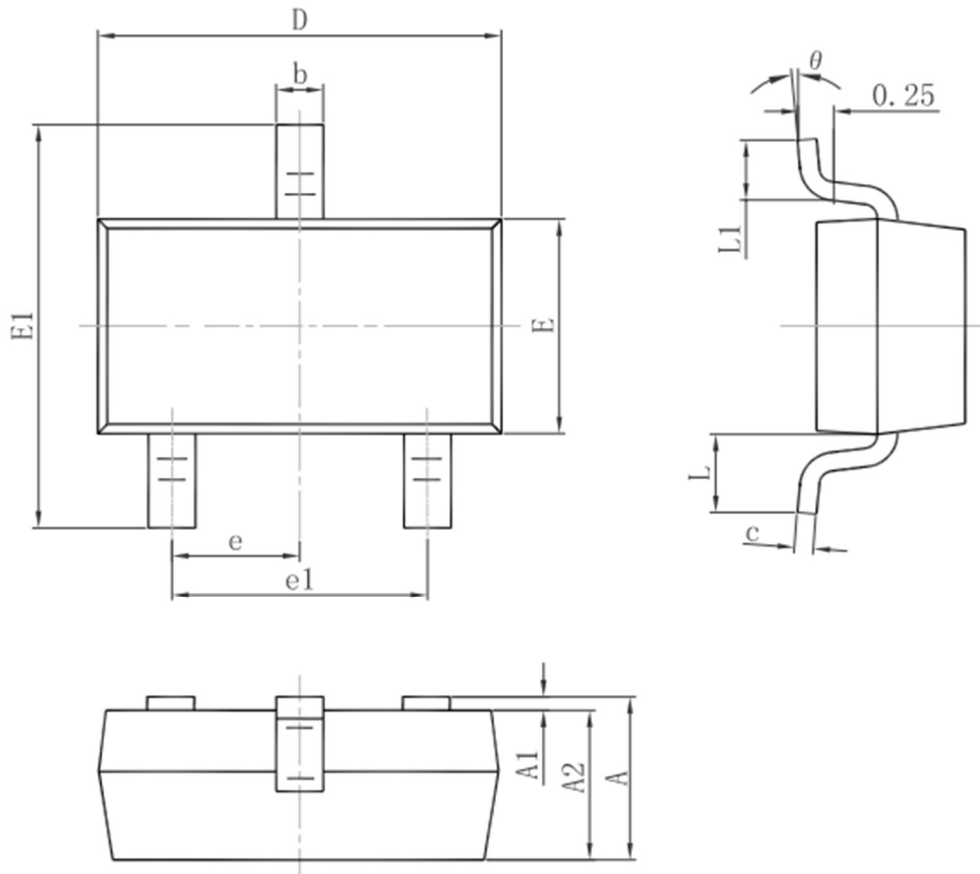
## Timing Chart



## Application Circuits



## Package Information (SOT23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
<b>A</b>	0.900	1.150	0.035	0.045
<b>A1</b>	0.000	0.100	0.000	0.004
<b>A2</b>	0.900	1.050	0.035	0.041
<b>b</b>	0.300	0.500	0.012	0.020
<b>c</b>	0.080	0.150	0.003	0.006
<b>D</b>	2.800	3.000	0.110	0.118
<b>E</b>	1.200	1.400	0.047	0.055
<b>E1</b>	2.250	2.550	0.089	0.100
<b>e</b>	0.950TYP.		0.037TYP.	
<b>e1</b>	1.800	2.000	0.071	0.079
<b>L</b>	0.550REF.		0.022REF.	
<b>L1</b>	0.300	0.500	0.012	0.020
<b>θ</b>	0°	8°	0°	8°