

Power Supply Supervisor

CYP809 Series

General Description

The CYP809 series are highly accurate, low power consumption voltage detectors, manufactured using CMOS and laser trimming technologies. A delay circuit is built-in to each detector. 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

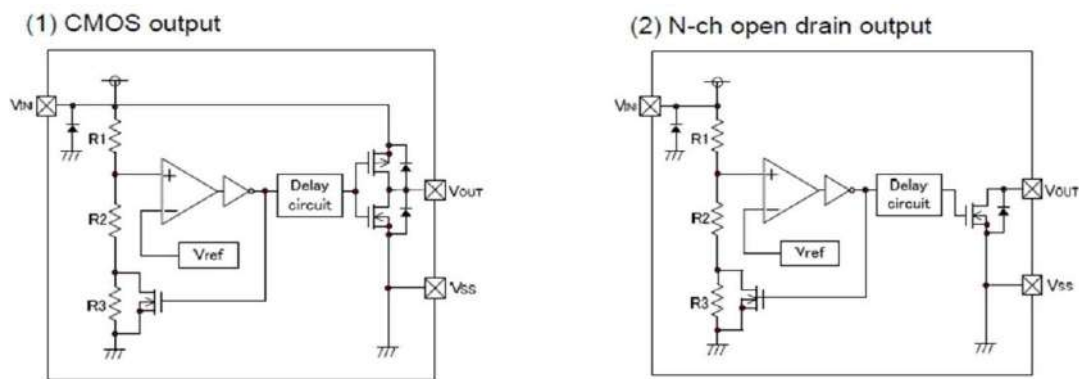
Order Information

Part No	Mark	Detectable Voltage	Package	Devices per reel
CYP809C263	AFAA	2.63V	SOT23	3000PCS
CYP809C293	ADAA	2.93V		
CYP809C308	ACAA	3.08V		
CYP809C400	CWAA	4.00V		
CYP809C438	ABAA	4.38V		
CYP809N263	BFAA	2.63V		
CYP809N293	BDAA	2.93V		
CYP809N308	BCAA	3.08V		
CYP809N400	BWAA	4.00V		
CYP809N438	BBAA	4.38V		

Note: CYP809①②③④

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

Block Diagram



Pin Assignment

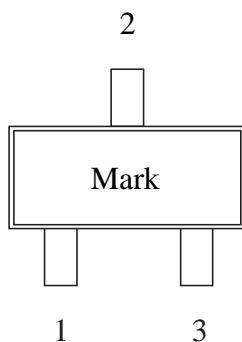
SOT23 (TOP VIEW)


Table1 CYP809C/CYP809N 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 CYP809 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	V _{IN}	-0.3~8.0	V
Operating Temperature	T _{amb}	-30~80	°C
Storage Temperature	T _{stg}	-40~125	°C

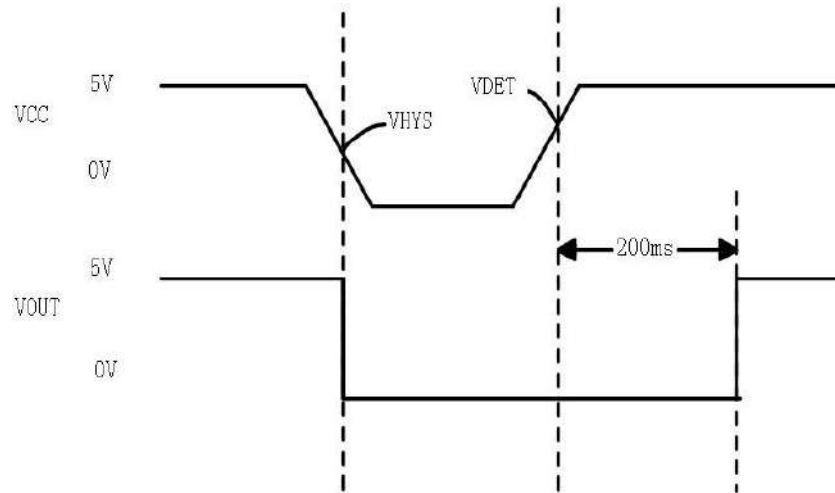
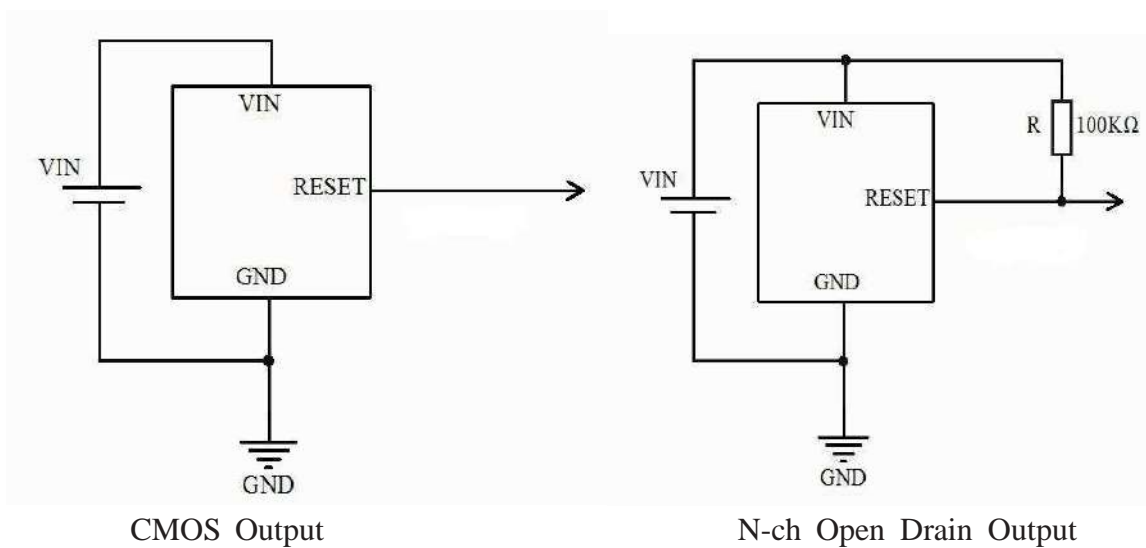
Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions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

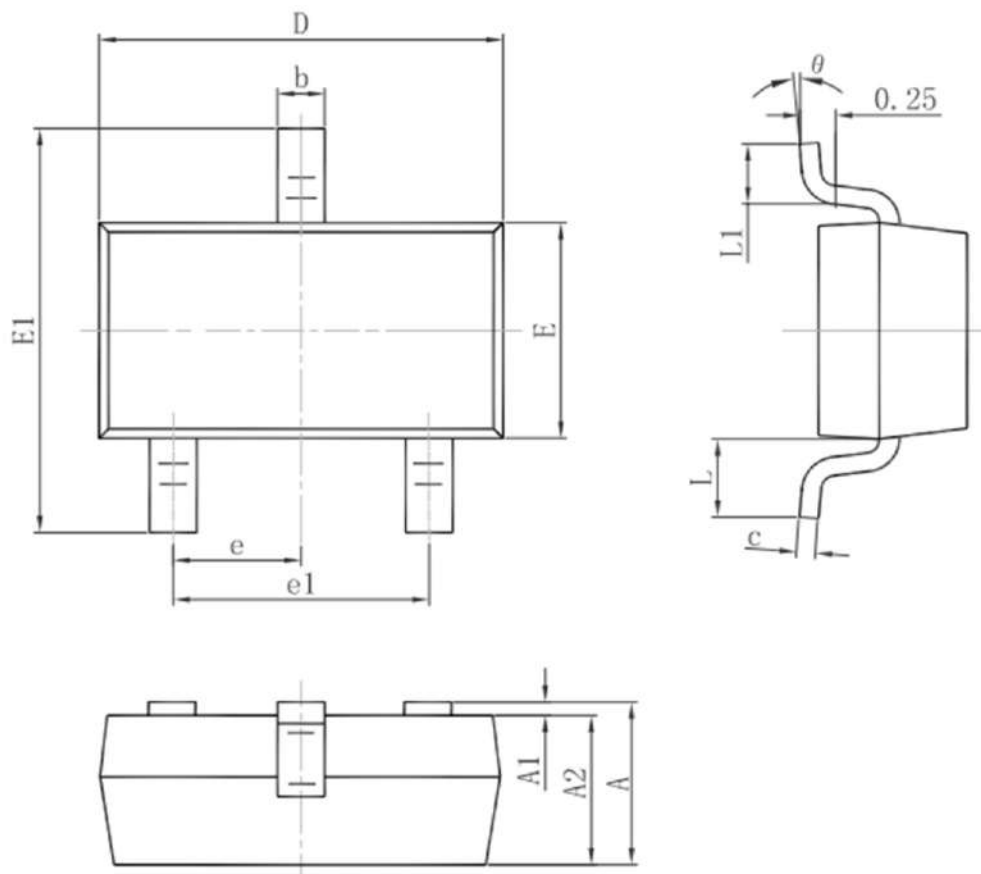
Thermal Information

Parameter	Symbol	Max.	Unit
Thermal Resistance (Junction to Ambient) (Assume no ambient airflow, no heat sink)	θ_{JA}	250	°C/W
Power Dissipation	P _D	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	V _{IN} =6V, V _{det} =2.63V	1	1.8	2.5	μA
V _{out} /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	
V _{out} /Reset Threshold Stability				30		Ppm/°C
VCC to V _{out} /Reset Delay		VCC=V _{TH} to V _{TH} - 100mV		20		us
V _{out} /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.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP.		0.037TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550REF.		0.022REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°



Special Instructions

The company reserves the right of final interpretation of this specification.

Version Change Description

Version: V1.6
2021.9.14

Author: Yang Yang

Time:

Modify the record:

1. Re-typesetting the manual and checking some data
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