



Microprocessor Reset Monitoror(Preliminary)

General Description

The CYT809 is a cost-effective system supervisor circuits designed to monitor VCC in digital systems and provide a reset signal to the host processor when necessary. No external components are required.

The reset output is driven active within 20 μ sec of VCC falling through the reset voltage threshold. Reset is maintained active for a minimum of 140msec after VCC rises above the reset threshold. The CYT809 has an active-low RESET output. The output of the CYT809 is guaranteed valid down to VCC=1V. Both devices are available in a SOT-23 package.

The CYT809 is optimized to reject fast transient glitches on the VCC line. Low supply current of 15 μ A (VCC=3.3V) makes these devices suitable for battery powered applications.

Features

- Precision VCC Monitor for 3.0V, 3.3V, and 5.0V Supplies
- 140msec Guaranteed Minimum RESET Output Duration
- RESET Output Guaranteed to VCC=1.0V
- Low 15 μ A Supply Current
- VCC Transient Immunity
- Small SOT-23 Package
- No External Components

Applications

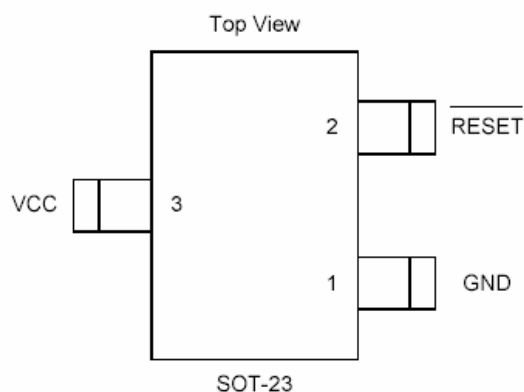
- Computers
- Embedded systems
- Battery powered equipment
- Critical μ P power supply monitoring



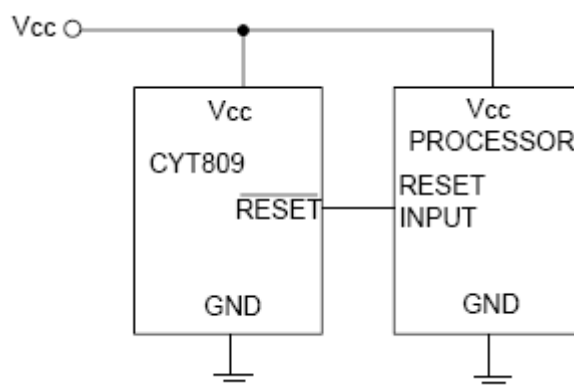
SOT-23 Package



Pin Configuration



Typical Application



Ordering/Marking Information

CYT809-

X

X

Yield periods:

A-Z : 1-26

a-z : 27-52

Output Voltage:

L : 4.63V

M : 4.38V

J : 4.00V

T : 3.08V

S : 2.93V

R : 2.63V



PIN DESCRIPTION:

Pin No.	Symbol	Description
1	GND	Ground
2	RESET	RESET output remains low while Vcc is below the reset voltage threshold and for 240msec(typ) after Vcc rises above reset threshold
3	VCC	Supply Voltage(typ.)

Operating Rating ⁽¹⁾

Parameter	Symbol	Value	Units
Supply Input Voltage	V _{CC}	+2.0V to +5.5	V
Junction Temperature	T _J	0 to +125	°C

Absolute Maximum Rating ⁽²⁾

Parameter	Symbol	Value	Units
Input Voltage	V _{CC}	+5.5	V
Output Voltage	RESET	-0.3 to (V _{cc} +0.3)	V
Input current	--	20	mA
Output Current	I _{OUT}	20	mA
Power Dissipation	PD	Internally Limited ⁽³⁾	
Output Short Circuit Duration		Infinite	
Thermal Resistance, Junction-to-Ambient	Θ _{JA}	230	°C/W
Operating Temperature Range	TA	0-85	°C
Lead Temperature (Soldering, 10 sec.)		260	°C
Junction Temperature	T _J	0 to +125	°C
Storage Temperature	T _S	-65 to +150	°C



Electrical Characteristics

$V_{IN} = V_{EN} = 3.6V$; $T_J = 25^{\circ}C$; unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{CC}	Input Voltage Range		2.0	--	5.5	V
I_{CC}	Supply Current		--	18	25	μA
V_{TH}	Reset Threshold	CYT809LXX: CYT809MXX: CYT809JXX: CYT809TXX: CYT809SXX: CYT809RXX:	4.54 4.29 3.92 3.02 2.87 2.58	4.63 4.38 4.00 3.08 2.93 2.63	4.72 4.47 4.08 3.14 2.99 2.68	V
	Reset Threshold Temperature Coefficient ⁽⁴⁾		--	30	--	Ppm/ $^{\circ}C$
	Vcc to Reset Delay Vcc=VTH to (VTH-100mV)		--	20	--	μsec
	Reset Active Timeout Period		140	240	600	msec
V_{OL}	RESET Output Voltage Low	ISNK=3mA	--	--	0.4	V
VOH	RESET Output Voltage High	ISOURCE = 800 μA	0.8Vcc	--	--	V

Note 1: Exceeding the absolute maximum rating may damage the device.

Note 2: The device is not guaranteed to function outside its operating rating.

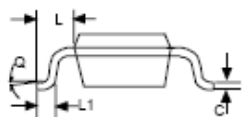
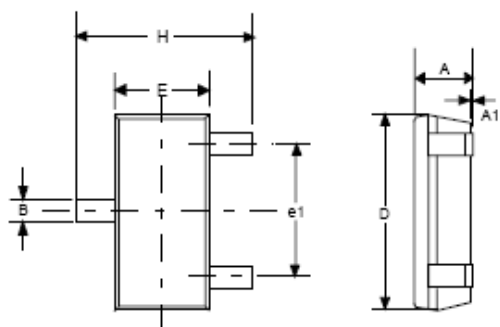
Note 3: The maximum allowable power dissipation at any T_A (ambient temperature) is calculated using: $PD(MAX) = (T_J(MAX) - T_A)/\theta_{JA}$. Exceeding the maximum allowable power dissipation will result in excessive die temperature, and the regulator will go into thermal shutdown. See "Thermal Consideration" section for details

Note 4: RESET threshold temperature coefficient is the worst case voltage change divided by the total temperature range.



CYT 809

Outline Drawing SOT-23



SC 59-3L

DIMENSIONS				
DIM ^N	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.90	1.10
A1	0.0004	0.005	0.01	0.13
B	0.012	0.020	0.30	0.50
C	0.004	0.008	0.09	0.20
D	0.110	0.122	2.80	3.10
H	0.098	0.122	2.50	3.10
E	0.059	0.067	1.50	1.70
e	0.037REF		0.95REF	
e1	0.075REF		1.90REF	
L1	0.008	0.022	0.20	0.55
L	0.014	0.031	0.35	0.80
Q	0°C	10°C	0°C	10°C