



ACE809ND/810ND

3-Pin Microprocessor Reset Circuits

Description

The ACE809ND/810ND series are ultra low current, cost effective system supervisory circuits designed to monitor the power supplies in digital systems. They provide a reset signal to the host processor, when necessary, offer excellent circuit reliability & low cost by eliminating external component and adjustment when used with 5V, 3.3V, 3.0V or other voltage powered circuits.

The reset output is driven active within 10 μ s of power supply falling through the reset voltage threshold. Reset is keeping active for a minimum of 140ms after system power supply has risen above the reset threshold. Reset threshold suitable for operation with variety of supply voltage are available.

ACE809ND has an active-low reset output while ACE810ND has an active-high reset output. The ACE809ND/810ND are optimized to reject fast transient glitches on the power supply line, and the reset output are guaranteed to be in the correct logic state for power supply V_{CC} down to 1V.

Each of these ICs consists of a voltage reference comparator, resistors for detector threshold setting, delay generator, output driver & hysteresis circuit. The reset threshold & time delay are fixed with high accuracy internally and does not require any external adjustment.

Low supply current of 3 μ A ($V_{CC}=3V$) makes ACE809ND/810ND ideal for low power application. Both devices are available in 3 Pin SOT-323 or SOT-23-3 packages.

Features

- Wide Operation Voltage Range of 1V to 10V
- Typical Quiescent Current of 3 μ A
- No External Components
- 3-Pin Small SOT-323 and SOT-23-3 Packages
- V_{CC} Transient Immunity
- Correct Logic Output Guaranteed to $V_{CC}=1.0V$
- Precision V_{CC} Monitor for 2.5V, 3.0V, 3.3V, and 5.0V Supplies
- Available in 2 Output Configurations
 - Push-Pull Low Active Reset Output (ACE809ND)
 - Push-Pull High Active Reset Output (ACE810ND)
- Wide Operation Temperature: -40°C to 85°C

Application

- CPU and Logic Circuit Reset
- Power Fail Detectors
- Computers
- Embedded Systems
- Battery-Powered Equipments
- Intelligent Instruments



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Absolute Maximum Ratings

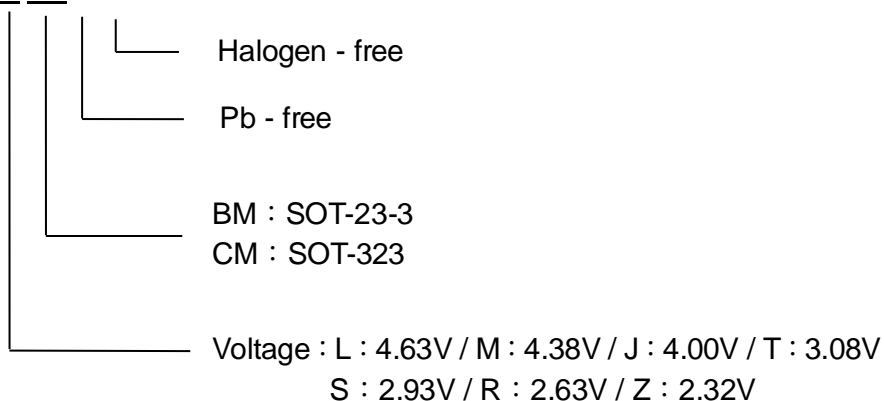
Symbol	Parameter	Value	Unit	
V_{CC}	Supply Voltage	-0.3 to 10	V	
	RESET, $\overline{\text{RESET}}$ (Push-Pull)	-0.3 to $V_{CC}+0.3$	V	
I_{CC}	Input Current, V_{CC}	20	mA	
I_o	Output Current, RESET, $\overline{\text{RESET}}$	20	mA	
	Rate of Rise, V_{CC}	100	V/ μ s	
P_D	Continuous Power Dissipation	SOT-323	174	mW
		SOT-23-3	320	
T_J	Operating Junction Temperature	-40 to 85	$^{\circ}\text{C}$	
T_{STG}	Storage Temperature Range	-65 to 150	$^{\circ}\text{C}$	
	Lead Temperature (Soldering, 10s)	300	$^{\circ}\text{C}$	

Note:

Stresses beyond those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Ordering information

ACE809ND/810ND X XX + H





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Notes

ACE does not assume any responsibility for use as critical components in life support devices or systems without the express written approval of the president and general counsel of ACE Technology Co., LTD. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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