



ACE803ND

3-Pin Microprocessor Reset Circuits

Description

The ACE803ND is a microprocessor (μP) supervisory circuit used to monitor the power supplies in μP and digital systems. It provides excellent circuit reliability and low cost by eliminating external components and adjustments when used with 5V, 3.3V, 3.0V or 2.5V powered circuits.

The circuit performs a single function: it asserts a reset signal whenever the V_{CC} supply voltage declines below a preset threshold, keeping it asserted for at least 140ms after V_{CC} has risen above the reset threshold. Reset thresholds suitable for operation with a variety of supply voltages are available.

The ACE803ND has an open-drain output stage. The ACE803ND's open-drain $\overline{\text{RESET}}$ output requires a pull-up resistor that can be connected to a voltage higher than V_{CC} . The ACE803ND has an active-low $\overline{\text{RESET}}$ output. The reset comparator is designed to ignore fast transients on V_{CC} , and the outputs are guaranteed to be in the correct logic state for V_{CC} down to 1V.

Low supply current makes the ACE803ND ideal for use in portable equipment. The ACE803ND is available in a SOT-323 and SOT23-3 package.

Features

- No External Components
- Power Supply Transient Immunity
- Guaranteed Reset Valid to $V_{\text{CC}}=+1\text{V}$
- Precision V_{CC} Monitoring of 2.5V, 3V, 3.3V and 5V Supplies
- Fully Specified Over Temperature
- 2 μA Supply Current
- 140ms Minimum Power-On Reset Pulse Width
- Available in One Output Configuration: Open-Drain Active-Low $\overline{\text{RESET}}$ Output
- SOT-323 and SOT23-3 Packages
- Wide Operation Temperature: -40°C to $+85^{\circ}\text{C}$

Application

- Computers
- Controllers
- Portable/Battery-Powered Equipments
- Intelligent Instruments
- Critical μP and μC Power Monitoring
- Automotive



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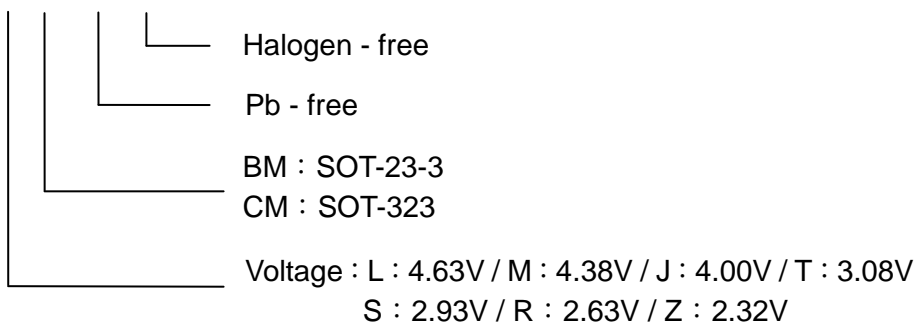
Absolute Maximum Ratings

Symbol	Parameter		Value	Unit
V_{CC}	Supply Voltage		-0.3 to 6.0	V
	$\overline{\text{RESET}}$		-0.3 to 6.0	
I_{CC}	Input Current, VCC		20	mA
I_O	Output Current, $\overline{\text{RESET}}$		20	mA
	Rate of Rise, V_{CC}		100	V/ μ s
P_D	Continuous Power Dissipation	SOT-323 (Derate 2.17mW/ $^{\circ}$ C above 70 $^{\circ}$ C)	174	mW
		SOT23-3 (Derate 4mW/ $^{\circ}$ C above 70 $^{\circ}$ C)	320	
T_A	Operating Temperature Range	SOT323	-40 to 125	$^{\circ}$ C
		SOT23-3	-40 to 105	
T_{STG}	Storage Temperature Range		-65 to 150	$^{\circ}$ C
	Lead Temperature (Soldering, 10s)		300	$^{\circ}$ 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 is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Ordering information

ACE803ND 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 Electronics 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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