



# ACE3V87CY

## CMOS input RRIO 1.4V Push-Pull Output Comparator

### Description

The ACE3V87CY is an ultra low-power comparator with a typical power supply current of 1.35 $\mu$ A. It has the best-in-class power supply current versus propagation delay performance. The propagation delay is as low as 1.1 $\mu$ s with 100mV overdrive at 1.4V supply. Designed to operate over a wide range of supply voltages, from 1.4V to 5.5V, with guaranteed operation at 1.4V, 2.5V and 5.0V, the ACE3V87CY is ideal for use in a variety of battery-powered applications. With rail-to-rail common mode voltage range, the ACE3V87CY is well suited for single-supply operation. Featuring a push-pull output stage, the ACE3V87CY allows for operation with absolute minimum power consumption when driving any capacitive or resistive load. The ACE3V87CY is ideal for use in handheld electronics and mobile phone applications. It is rated over the -40°C to 85°C temperature range. ACE3V87CY is available in the Green SOT-23-5, SC-70-5, SOP-8, MSOP-8, SOP-14 and TSSOP-14 packages.

### Features

- Operating Temperature Range: -40°C to 85°C
- Wide Supply Voltage Range: 1.4V to 5.5V
- Push-Pull Output Current Drive: 25mA (TYP) at V+ = 5V
- Ultra Low Power Consumption: 1.35 $\mu$ A (TYP) at V+ = 1.4V
- Propagation Delay: 1.1 $\mu$ s (TYP) at V+ = 1.4V
- Rail-to-Rail Input

### Application

- Multivibrators
- RC Timers
- Alarm and Monitoring Circuits
- Window Detectors
- IR Receiver



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### Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply Voltage (V+ – V-)		7.5	V
Input Voltage		(V-)-0.5V to (V+)+0.5V	V
Difference Input Voltage		±2.5V	V
Operating Temperature Range	TA	-40 to 85	°C
Storage Temperature Range	TSTG	-55 to 150	°C
Junction Temperature	TJ	160	°C
Lead Temperature Range	TL	260	°C
HBM, JEDEC: JESD22-A114	ESD	4000	V
CDM, JEDEC: JESD22-C101		400	V

Note:

Stresses beyond those listed under “Absolute Maximum Rating” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition 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.

### Recommended Operating Conditions

Parameter	Symbol	Rating	Unit
Supply Voltage		1.4 to 5.5	V
Operating Temperature Range	TA	-40 to 85	°C

Note:

The Recommended Operating Conditions table defines the conditions for actual device operation to ensure optimal performance to the datasheet specifications. ACE does not recommend exceeding them or designing to Absolute Maximum Ratings.

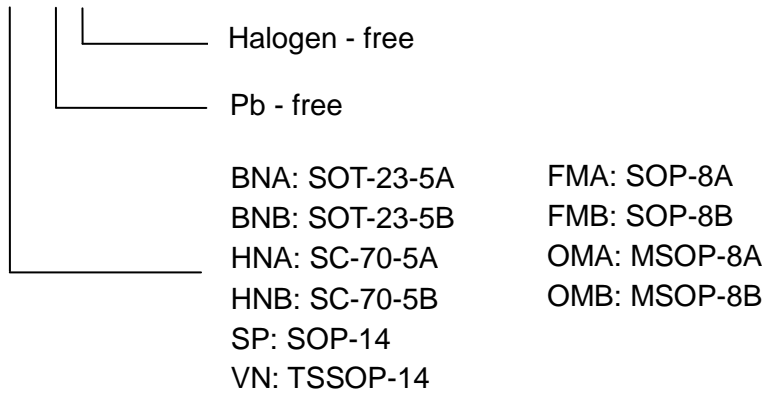


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## Ordering Information

ACE3V87CY XXX + 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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