



# ACE3U027Z

## Programmable Current-Limited Load Switch

### Description

The ACE3U027Z is a load switch which provides full protection to systems and loads which may encounter large current conditions. ACE3U027Z offers a 70mΩ current-limited switch which can operate over an input voltage range of 2.1-6V. The current limit can be externally programmed by a precision resistor, ranges from 75mA to 2A. Switch control is executed by a logic input (EN) capable of interfacing directly with low voltage control signals. Current is prevented from flowing when the switch is off, or the output voltage is higher than the input voltage. When the switch current reaches the current limit, the part operates in a constant-current mode to prohibit excessive currents from causing damage. The ACE3U027Z will not turn off after a current limit fault but will rather remain in the constant current mode indefinitely. The nFAULT output asserts low during over-current and reverse-voltage conditions. ACE3U027Z is available in three types of packages: SOT23-5, SOT23-6, and DFN2x2-6L.

### Features

- Input Operating Voltage Range: 2.1V to 6V
- 7.5V Input Standoff Voltage
- 6.1V OVP
- Up to 2A Max Load Current
- Programmable Current-Limit: 75mA to 2000mA
- Accurate Current-Limit Threshold at 1.7A: +/-5%
- Fast Over-Current Response
- Fault Flag Output: nFAULT Pin
- Reversed Input-Output Current blocking
- Thermal Shutdown, UVLO protection
- SOT23-5, SOT23-6, DFN2x2-6 Package
- Pb Free, RoHS and REACH Compliant
- Halogen Free and “Green” Device

### Application

- USB Ports and Hubs
- Digital TVs
- Set-Top Boxes
- VOIP Phones



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### Absolute Maximum Rating

Parameter		Value	
IN, OUT Voltage to GND		-0.3V to 7.5V	
All other Pin Voltage to GND		-0.3V to 7.5V	
OUT to ground current		Internally limited	
Junction Temperature		150°C	
Storage Temperature Range		-55°C to 150°C	
Thermal Resistance	$\theta_{JC}$	DFN2x2-6	30 °C /W
		SOT23-6	90 °C /W
		SOT23-5	90 °C /W
	$\theta_{JA}$	DFN2x2-6	80 °C /W
		SOT23-6	180 °C /W
		SOT23-5	180 °C /W
Lead Temperature (Soldering, 10sec)		260°C	

Note: Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability

### Recommended Operating Conditions

Parameter	Value
Ambient Temperature Range	-40°C to 85°C
Junction Temperature Range	-40°C to 125°C

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

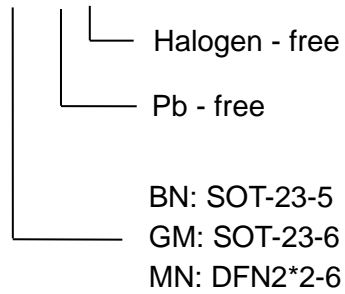


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## Ordering information

ACE3U027Z XX + H



Halogen - free

Pb - free

BN: SOT-23-5

GM: SOT-23-6

MN: DFN2\*2-6



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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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