



# ACE346N

## Low Loss Power Distribution Switch

### Description

ACE346N is an ultra-low  $R_{DS(ON)}$  switch with current limiting function to protect the power source from over current and short circuit conditions.

### Features

- Distribution voltages: 2.5V to 5.5V
- Over temperature shutdown and automatic retry
- Reverse blocking (no body diode)
- At shutdown, OUT can be forced higher than IN
- Fault flag (OCB) output for over current and fault conditions
- Automatic output discharge at shutdown
- Built-in soft-start
- 1.6ms rise time at 3.3Vin condition
- RoHS Compliant and Halogen Free
- Compact packages minimize board space: SOT-23-5

### Absolute Maximum Ratings (Note1)

Parameter	Value
All pins	6V
Power Dissipation, PD@ $T_A=25^{\circ}\text{C}$	0.4W
Package Thermal Resistance (Note 2)	$\theta_{JA}$ 250°C/W
	$\theta_{JC}$ 130°C/W
Junction Temperature Range	150°C
Lead Temperature (Soldering, 10sec.)	260°C
Storage Temperature Range	-65°C to 150°C
ESD Susceptibility (Note 2)	
HBM (Human Body Mode)	2kV
MM (Machine Mode)	200V

Note 1: Stresses beyond the “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Note 2:  $\theta_{JA}$  is measured in the natural convection at  $T_A = 25^{\circ}\text{C}$  on a low effective single layer thermal conductivity test board of JEDEC 51-3 thermal measurement standard. Pin 2 of SOT23-5 packages is the case position for  $\theta_{JC}$  JC measurement.



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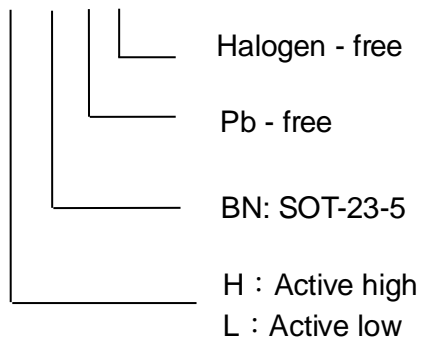
### Recommended Operating Conditions (Note 3)

Parameter	Value
IN	2.5V to 5.5V
All other pins	0V to 5.5V
Junction Temperature Range	-40°C to 125°C
Ambient Temperature Range	-40°C to 85°C

Note 3: The device is not guaranteed to function outside its operating conditions.

### Ordering information

ACE346N X XX + H

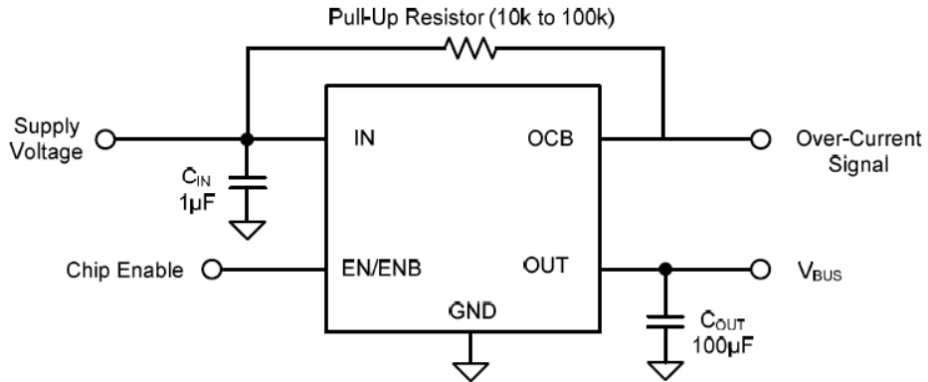




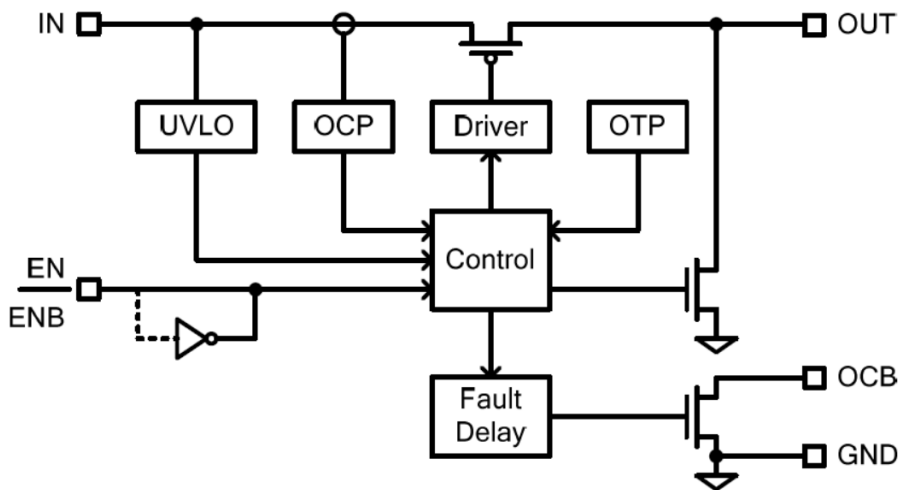
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### Typical Applications



### Block Diagram





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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.