



ACE3431YC

5.5V Low Loss Power Switch

Description

The ACE3431YC power distribution switch is intended for applications where precision current limiting is required or heavy capacitive loads and short circuits are encountered. The power switch rising and falling times are controlled to minimize current surges during turning on/off.

The ACE3431YC provide 150mA current level.

The ACE3431YC device limits the output current under a safe level by using a constant current mode when the output load exceeds the current limit threshold.

Features

- Input voltage: 2.7V to 5.5V
- Typical 135mΩ on-resistance
- Under voltage lockout
- Reverse blocking (no body diode)
- Fault time 5ms typically with blanking
- Output discharge resistance of 600ohm
- No reverse current when power ON or power OFF
- Over current protection, short circuit protection and over temperature protection

Application

- Set-Top Boxes
- USB Ports/Hubs
- VOIP Phones
- Digital TV



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Absolute Maximum Ratings

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.

Parameter	Symbol	Rating	Unit
All pins		-0.3 to 6	V
Lead temperature (Soldering, 10 s)	T_L	260	°C
Storage temperature range	T_{STG}	-65 to 150	°C
Operating junction temperature	T_J	125	°C
Junction-to-ambient thermal resistance	θ_{JA}	215	°C/W
Junction-to-case thermal resistance	θ_{JC}	91.5	°C/W
Power dissipation at $\theta_{JA} = 215^\circ\text{C/W}$, $T_J = 125^\circ\text{C}$, $T_A = 25^\circ\text{C}$	P_D	0.465	W
HBM (Human Body Mode)	ESD	6	kV
CDM (Charged Device Mode)		2	

Recommended Operating Conditions

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.

Parameter	Symbol	Rating	Unit
IN	V_{IN}	2.7 to 5.5	V
All other pins		0 to 5.5	V
Junction Temperature Range	T_J	-40 to 125	°C
Ambient Temperature Range	T_A	-40 to 85	°C

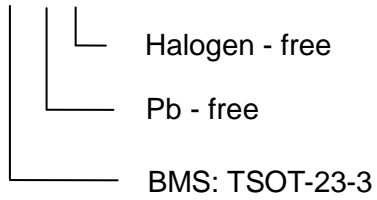


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Ordering information

ACE3431YC 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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