



# ACE7316LA

## 500KHz, 16V, 3A Synchronous Step-Down Converter

### Description

The ACE7316LA is a fully integrated, high-efficiency 3A synchronous rectified step-down converter. The ACE7316LA operates at high efficiency over a wide output current load range.

This device offers two operation modes, PWM control and PFM Mode switching control, which allows a high efficiency over the wider range of the load.

The ACE7316LA requires a minimum number of readily available standard external components and is available in SOT-23-6 package.

### Features

- High efficiency: up to 96%
- 500KHz frequency operation
- Up to 3A output current
- No schottky diode required
- 4.5V to 16V input voltage range
- 0.8V reference
- Slope compensated current mode control for excellent line and load transient response
- Integrated internal compensation
- Stable with low ESR ceramic output capacitors
- Over current protection with hiccup-mode
- Over temperature protection
- Inrush current limit and soft start
- Available in SOT-23-6
- -40°C to 85°C temperature range

### Application

- Distributed power systems
- Digital set top boxes
- Flat panel television and monitors
- Wireless and DSL modems
- Notebook computer



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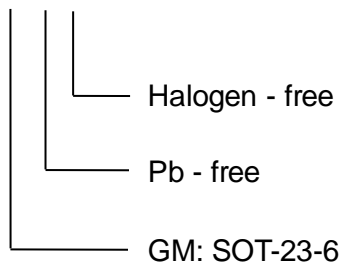
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### Absolute Maximum Rating

Parameter	Value
Supply voltage $V_{IN}$	-0.3V to 17V
Switch node voltage $V_{SW}$	-0.3V to ( $V_{IN}+0.3V$ )
Boost voltage $V_{BST}$	$V_{SW}-0.3V$ to $V_{SW}+5V$
Enable voltage $V_{EN}$	-0.3V to ( $V_{IN}+0.3V$ )
All other pins	-0.3V to 6V
Package thermal resistance ( $\theta_{JA}$ )	150°C /W
Package thermal resistance ( $\theta_{JC}$ )	50°C /W
Max operating junction temperature ( $T_J$ )	150°C
Operating temperature range	-40°C to 85°C
Storage temperature range	-65°C to 150°C
Lead temperature (soldering, 10s)	260°C

### Ordering Information

ACE7316LA 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.