



# ACE72251LA

## 1.5A 2MHz 5.5V Synchronous Buck Converter

### Description

The ACE72251LA is a high-efficiency, DC to DC step-down switching regulators, capable of delivering up to 1.5A of output current. The device operates from an input voltage range of 2.6V to 5.5V and provides an output voltage from 0.6V to VIN. Working at a fixed frequency of 2MHz allows the use of small external components, such as ceramic input and output caps, as well as small inductors, while still providing low output ripples. This low noise output along with its excellent efficiency achieved by the internal synchronous rectifier, making ACE72251LA an ideal replacement for large power consuming linear regulators. Internal soft-start control circuitry reduces inrush current. Short-circuit and thermal shutdown protection improves design reliability.

The ACE72251LA is available in SOT-23-5, DFN2\*2-6L and DFN1.6\*1.6-6 package.

### Features

- High efficiency: up to 97%
- Up to 1.5A Max output current
- 2MHz switching frequency
- Low dropout 100% duty operation
- Internal compensation and soft-start
- Current mode control
- Reference 0.6V
- Logic control shutdown ( $I_Q < 1\mu A$ )
- Thermal shutdown, UVLO

### Application

- Cellular phones
- Digital Cameras
- MP3 and MP4 players
- Set top boxes
- Wireless and DSL Modems
- USB supplied Devices in Notebooks
- Portable Devices



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### Absolute Maximum Ratings

Parameter	Value	
Max Input Voltage	6V	
Max Operating Junction Temperature (T <sub>J</sub> )	125°C	
Ambient Temperature (T <sub>A</sub> )	-40°C ~ 85°C	
Maximum power dissipation	SOT-23-5	0.4W
	DFN2*2-6L	0.6W
	DFN1.6x1.6-6	0.6W
Storage Temperature (T <sub>S</sub> )	-40°C ~ 150°C	
Lead Temperature & Time	260°C, 10S	
ESD (HBM)	>2000V	

Note: Exceed these limits to damage to the device. Exposure to absolute maximum rating conditions may affect device reliability.

### Ordering information

ACE72251LA XX + H

└─┬─┘	Halogen - free
└─┬─┘	Pb - free
└─┬─┘	BNA: SOT-23-5A
└─┬─┘	BNB: SOT-23-5B
└─┬─┘	MN: DFN2*2-6L
└─┬─┘	QF: DFN1.6*1.6-6



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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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