



# ACE707C

## 0.9 V startup, 1MHz, 300mA Iout, Low Iq, Synchronous Boost Converter

### Description

The ACE707C is a step-up converter that provides a boosted output voltage from a low voltage source. Because of its proprietary design, it starts up at a very low input voltage down to 0.9V, and only consumes 15uA at standby, making it an ideal choice for single cell alkaline/NiMH battery operations.

A switching frequency of 1MHz minimizes solution footprint by allowing the use of tiny, low profile inductors and ceramic capacitors. The current mode PWM design is internally compensated, reducing external parts count.

ACE707C is available in SOT-23-3, SOT23-5 and SOT89-3 Package.

### Features

- Efficiency up to 95% @  $V_{in}=2.7V$ ,  $V_{out}=3.3V$
- Typical 15uA standby current
- 1MHz Switching Frequency allows small inductor and output cap
- Input boost-strapping allows using small or no input cap
- Low  $V_{in}$  Start-up Voltage down to 0.9V Ideal for Single Alkaline Cell operations
- Maximum Output Current up to 300mA
- Low Noise PWM control
- Internally Compensated Current Mode Control
- Internal Synchronous Rectifier
- Available in SOT-23-3, SOT23-5 and SOT89-3

### Application

- One to Three Cell Battery Operated Devices
- Medical Instruments
- Bluetooth Headsets
- Flash-Based MP3 Players
- Noise Canceling Headphones



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## Absolute Maximum Ratings

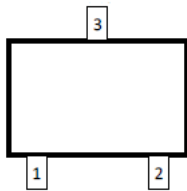
Parameter		Value
SW Voltage		-0.3 ~ 6V
OUT Voltage		-0.3 ~ 6V
Max Operating Junction Temperature(Tj)		125°C
Maximum Power Dissipation	SOT-23-3	450mW
	SOT-23-5	450mW
	SOT89-3	500mW
Ambient Temperature(Ta)		-40°C– 85°C
Storage Temperature(Ts)		-55°C - 150°C
Lead Temperature & Time		260°C, 10S

Note: Exceed these limits to damage to the device.

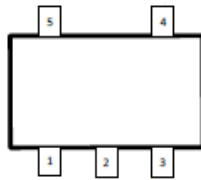
Exposure to absolute maximum rating conditions may affect device reliability.

## Packaging Type

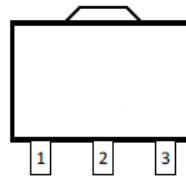
SOT-23-3



SOT-23-5

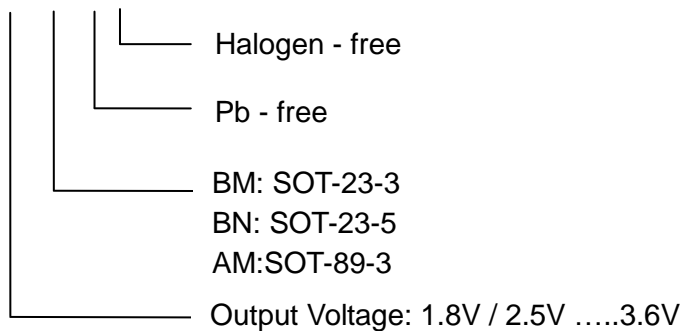


SOT-89-3



## Ordering information

ACE707C XX 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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