



ACE7089BRT

Synchronous Step-Up Converter

Description

The ACE7089BRT is a high-efficiency, synchronous, current-mode, step-up converter with output disconnection. The ACE7089BRT starts up from an input voltage as low as 1.9V, while providing inrush current limiting and output short-circuit protection. The integrated P-channel synchronous rectifier improves efficiency and eliminates the need for an external Schottky diode. This P-channel disconnects the output from the input during shutdown. The 1.0MHz switching frequency allows small external components, while the internal compensation and soft-start minimize external component count.

Features

- Internal Synchronous Rectifier
- Up to 98% Efficiency
- 6.6A Typical Switch Current Limit
- 1.0MHz Fixed Switching Frequency
- Input Range Range: 1.9V to 5.5V
- Adjustable Output Voltage from 2.5V to 5.5V
- Low Quiescent Current: 43uA
- OCP, SCP, OVP and OTP Protection
- High Efficiency over Full Load Range
- Internal Soft-start and Compensation
- True Output Load Disconnect from Input
- Available in QFN2*2-14 package

Application

- Power Banks, Juice Packs, Battery Back-up Units
- Consumer Electronic Accessories
- USB Power Supply
- Battery-Powered Products



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Absolute Maximum Ratings ^{Note (1)}

Over operating free-air temperature, unless otherwise noted.

Item	Symbol	Min	Max	Unit
SW	VOS	-0.3	6.5	V
All Other Pins		-0.3	6.5	V
Human Body Model (JEDEC JS-001)	VESD		±3	kV
Charged Device Model (JESD22-C101)			±1	kV
Junction Temperature	TJ	-40	150	°C
Storage Temperature	TSTG	-65	150	°C

Note:

(1). Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.

Recommended Operating Conditions

Item	Symbol	Min	Max	Unit
Supply Input Voltage Range	VIN	1.9	5.5	V
Output Voltage Range	VOOUT	2.5	5.5	V
Operating Junction Temperature	TJ	-40	125	°C
Ambient Temperature	TA	-40	85	°C

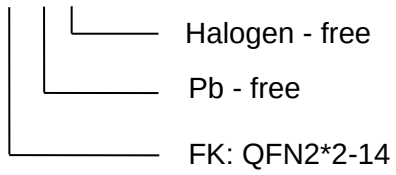


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Ordering Information

ACE7089BRT 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 sued 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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