



ACE7206U

1A, 2.25MHz, Synchronous Step-Down DC-DC Converter

Description

The ACE7206U is a high efficiency pulse-width-modulated (PWM) synchronous step-down DC-DC converter with an input voltage range of 2.5V to 6.0V. It provides up to 1000mA output current from a single Li-ion cell. The ACE7206U operates at 2.25MHz fixed switching frequency and enters Power Save Mode to maintain high efficiency at light load condition. For low noise applications, the device can be forced into fixed frequency PWM mode by pulling the MODE pin high. The ACE7206U enters shutdown mode and consumes less than 1 μ A when EN pin is pulled low. Other features include lower internal reference voltage with 2% accuracy, over temperature protection and over current protection. The ACE7206U is available in SOT-23-6 and DFN2*2-6L packages.

Features

- High Efficiency: Up to 95%
- 2.25MHz Constant Switching Frequency
- 1000mA Output Current
- Integrated Main Switch and Synchronous Rectifier. No Schottky Diode Required.
- 2.5V to 6.0V Input Voltage Range
- Low Quiescent Current: 56 μ A
- Thermal Fault Protection
- <1 μ A Shutdown Current

Applications

- Cellular and Smart Phones
- Microprocessors and DSP Core Supplies
- Wireless and DSL Modems
- PDAs, GPS
- WLAN
- Portable Instruments



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Absolute Maximum Ratings (Note 1)

Symbol	Parameter	Value	Unit
V_{IN}	Input Voltage	-0.3 to 6.0	V
V_{EN}, V_{FB}	EN, FB Voltages	-0.3 to $V_{IN}+0.3$	V
V_{SW}	SW Voltage	-0.3 to $V_{IN}+0.3$	V
I_{SW}	Peak SW Sink and Source Current	2.0	A
T_O	Operating Temperature	-40 to 85	°C
T_{STG}	Storage Temperature Range	-65 to 150	°C

Note:

1. Stresses greater than those listed under Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

Thermal Capabilities

Symbol	Description	Value	Unit	
θ_{JA}	Thermal Resistance	SOT-23-6	190	°C/W
		DFN2*2-6L	165	°C/W
P_D	Power Dissipation	SOT-23-6	0.526	W
		DFN2*2-6L	0.606	W
$\Delta P/^\circ C$	Derating Factor above $T_A=25^\circ C$	SOT-23-6	-5.26	mW/°C
		DFN2*2-6L	-6.06	mW/°C

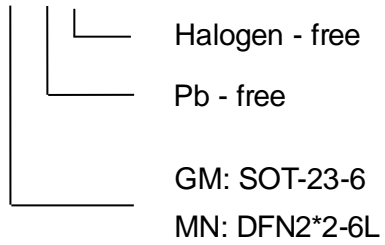


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Ordering Information

ACE7206U 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.