



ACE7222C

2A 2MHz 5.5V Synchronous Buck Converter

Description

The ACE7222C is a high-efficiency, DC-to-DC step- down switching regulators, capable of delivering up to 2A 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 V_{IN} .

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 ACE7222C 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.

Features

- High efficiency: up to 97%
- Output current: up to 2A
- Output voltage range: V_{REF} to V_{IN}
- 2MHz switching frequency
- Low dropout 100% duty operation
- Internal compensation and soft-start
- Current mode control
- Reference $0.6V \pm 2\%$
- Logic control shutdown ($I_Q < 1\mu A$)
- Thermal shutdown, UVLO
- Available in SOT23-5 and DFN1.6x1.6-6

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		8V
Supply voltage V_{IN}		-0.3V to 8V
Switch node voltage V_{SW}		-0.3V to $(V_{IN}+0.3V)$
Voltage V_{EN} , V_{FB}		-0.3V to V_{IN}
Max operating junction temperature (T_J)		125°C
Ambient temperature (T_A)		-40°C to 85°C
Maximum power dissipation	SOT23-5	0.6W
	DFN1.6x1.6-6	0.6W
Package thermal resistance (θ_{JA})	SOT23-5	150°C /W
	DFN1.6x1.6-6	125°C /W
Package thermal resistance (θ_{JC})	SOT23-5	50°C /W
	DFN1.6x1.6-6	30°C /W
Storage temperature (T_S)		-40°C to 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.



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Ordering information

ACE7222C XX + H

Halogen - free

Pb - free

BN: SOT23-5

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 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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