



ACE7263C

28V, 2A, 500KHz Synchronous Step-Down DC/DC Converter

Description

The ACE7263C is a fully integrated, synchronous rectified step-down converter that provides wide 4.2V to 28V input voltage range and 2A continuous load current capability. The ACE7263C can operate at PFM mode to achieve high efficiency and reduce power loss at light load. In shutdown mode, the Max supply current is about 3 μ A.

The ACE7263C protection function includes cycle-by- cycle current limit, UVLO and thermal shutdown. Besides, internal soft-start prevents inrush current at fast power-on. This device uses slope compensated current mode control which provides fast load transient response. Internal loop compensation function reduces the external compensator components and simplifies the design process.

The ACE7263C requires a minimum number of readily available standard external components and is available in ESOP-8 (Exposed Pad) and SOT23-6 packages and provides good thermal conductance.

Features

- Wide input voltage range: 4.2V to 28V
- 2A output current
- 0.8V reference voltage
- Low $R_{DS(ON)}$ integrated power MOSFET (180/110m Ω)
- 3 μ A(Max) shutdown current
- Integrated internal compensation
- High efficiency at light load
- Internal 1ms soft-start
- Cycle-by-cycle current limit
- Over-temperature protection with auto recovery
- Under voltage lockout (UVLO)
- Hiccup short circuit protection
- Available in ESOP-8 and SOT23-6 packages
- RoHS compliant

Application

- Distributed power system
- Flat panel television and monitors
- STB (set-top-box)
- Networking, XDSL modem



ACE7263C

28V, 2A, 500KHz Synchronous Step-Down DC/DC Converter

Absolute Maximum Ratings

Parameter		Value
Supply voltage V_{IN}		-0.3V to 30V
Switch node voltage V_{SW}		-0.3V to $V_{IN}+0.5V$
Boost voltage V_{BST}		$V_{SW}-0.3V$ to $V_{SW}+5V$
Enable voltage V_{EN}		-0.3V to 12V
The others pins		-0.3V to 6V
Package thermal resistance (θ_{JC})	ESOP-8	10°C/W
	SOT23-6	100°C/W
Package thermal resistance (θ_{JA})	ESOP-8	50°C/W
	SOT23-6	200°C/W
Operating temperature range (T_J)		-40°C to 150°C
Storage temperature range		-65°C to 150°C
Lead temperature (soldering, 10s)		260°C

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

Recommended Work Conditions

Item	Min	Max	Unit
Supply voltage V_{IN}	4.2	28	V
Ambient temperature (T_A)	-40	85	°C
Operating junction temperature (T_J)	-40	125	°C



ACE7263C

28V, 2A, 500KHz Synchronous Step-Down DC/DC Converter

Ordering information

ACE7263C XX+ H

└─┬─┘	Halogen - free
└─┬─┘	Pb - free
└─┬─┘	GM: SOT-23-6
└─┬─┘	IM: ESOP-8



ACE7263C

28V, 2A, 500KHz Synchronous Step-Down DC/DC Converter

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.

ACE Technology Co., LTD.
<http://www.ace-ele.com/>