



# ACE7333C

## 28V, 3A, 500KHz Synchronous Step-Down DC/DC Converter

### Description

The ACE7333C is a fully integrated synchronous rectified step-down converter that provides wide 4.2V to 28V input voltage range and 3A continuous load current capability. The ACE7333C 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 $\mu$ A.

The ACE7333C 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 ACE7333C requires a minimum number of readily available standard external components and is available in ESOP-8 (Exposed Pad) package and provides good thermal conductance.

### Features

- Wide Input Voltage Range: 4.2V to 28V
- 3A Output Current
- 0.8V Reference Voltage
- Low  $R_{DS(ON)}$  Integrated Power MOSFET (150/90m $\Omega$ )
- 3 $\mu$ A(Max) Shutdown Current
- Integrated internal compensation
- High Efficiency at Light Load
- Cycle-by-Cycle Current Limit
- Over-Temperature Protection with Auto Recovery
- Under Voltage Lockout (UVLO)
- Hiccup Short Circuit Protection
- Available in ESOP8 Exposed Pad Package
- RoHS Compliant

### Application

- Distributed Power System
- Flat Panel Television and Monitors
- STB (Set-Top-Box)
- Networking, XDSL Modem

### Recommended Work Conditions

Item	Min	Max.	Unit
Supply Voltage VIN	4.2	28	V
Ambient Temperature	-40	85	°C



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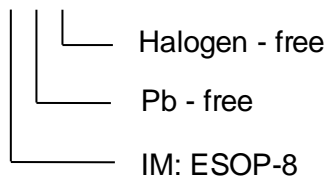
### Absolute Maximum Ratings

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
Operating Temperature Range	-40°C to 85°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.

### Ordering information

ACE7333C 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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