



ACE7352N

40V Input Standoff Voltage, 2A Step-Down Converter

Description

ACE7352N is a high efficiency 800 kHz, adaptive constant OFF time controlled asynchronous step-down DC-DC regulator capable of delivering 2A output current. The ACE7352N can operate over a wide input voltage range from 5V to 40V and integrate main switch with very low $R_{ds(on)}$ to minimize the conduction loss.

Low output voltage ripple and small external inductor and capacitor sizes are achieved with 800 kHz switching frequency.

Features

- 5-40V input voltage range
- Low $R_{ds(on)}$ for internal N-channel Power FET: 195 m Ω
- 800kHz switching frequency
- Adaptive constant OFF time control
- Internal soft start limits the inrush current
- 2% 0.6V reference
- Hic-cup mode short circuit protection
- Cycle by cycle peak current limit
- Thermal shutdown protection
- RoHS Compliant and Halogen Free
- Compact package: SOT23-6

Applications

- Set Top Box
- Portable TV
- Access Point Router
- DSL Modem
- LCD TV



ACE7352N

40V Input Standoff Voltage, 2A Step-Down Converter

Absolute Maximum Ratings (Note1)

Parameter	Value	
Supply Input Voltage	42V	
Enable Voltage	$V_{IN} + 0.6V$	
FB Voltage	3.6V	
BST to SW Voltage	3.6V	
Power Dissipation, PD@T _A =25°C	0.6 W	
Package Thermal Resistance (Note 2)	θ_{JA}	170°C/W
	θ_{JC}	130°C/W
Junction Temperature Range	150°C	
Lead Temperature (Soldering, 10sec.)	260°C	
Storage Temperature Range	-65°C to 150°C	

Note 1: Stresses beyond the “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Note 2: θ_{JA} is measured in the natural convection at T_A= 25°C on a low effective single layer thermal conductivity test board of JEDEC 51-3 thermal measurement standard.

Recommended Operating Conditions (Note 1)

Parameter	Value
Supply Input Voltage	5V to 40V
BST to SW Voltage	3.3V
Junction Temperature Range	-40°C to 125°C
Ambient Temperature Range	-40°C to 85°C

Note 1: The device is not guaranteed to function outside its operating conditions.



ACE7352N

40V Input Standoff Voltage, 2A Step-Down 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 Electronics 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/>