



ACE7357Z

18V, 3A, 1MHz High Efficiency Synchronous Step-Down Converter

Description

ACE7357Z is a wide input range, high-efficiency and 1MHz frequency DC-to-DC step-down switching regulator, capable of delivering up to 3A of output current. It adopts an Adaptive COT control scheme that enables very fast transient response and provides a very smooth transition when the output varies from light load to heavy load. During light load, ACE7357Z goes into a PFM mode that saves switching loss achieving high efficiency. The adaptive COT control also maintains a constant switching frequency across line and load. An OVP function protects the IC itself and its downstream system against input voltage surges. With this OVP function, the IC can stand off input voltage as high as 25V, making it an ideal solution for industrial applications such as LCD TV, Set Top Box, Portable TV, etc.

Features

- Wide Input Range: 4.5V-18V
- Adaptive COT Control
- Ultra-fast load transient response
- High Efficiency PFM mode at light load
- High Efficiency Synchronous operation
- No load IQ 180uA
- Low $R_{DS(on)}$ Internal power FETs
- Capable of Delivering 3A
- No External Compensation Needed
- Thermal Shutdown and UVLO
- Available in SOT-563 Package

Application

- LCD TV
- Set Top Box
- xDSL Modem



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Absolute Maximum Rating

($V_{IN} = 12V$, $V_{OUT} = 3.3V$, unless otherwise specified. Typical values are at $T_A = 25\text{ }^\circ\text{C}$.)

Parameter	Value
IN Voltage	-0.3V to 18V
SW, EN Voltage	0.3V(-5V for <10nS) to 18V (19V for <10nS)
BST Voltage	V to SW+6V
FB Voltage	-0.3V to 6V
Junction Temperature	150 °C
Operating Ambient Temperature Range	-40°C to 85°C
Operating Junction Temperature Range	-40 °C to 125 °C
Storage Temperature Range	-55°C to 150°C
Thermal Resistance	θ_{JA} 110°C/W
	θ_{JC} 50°C/W
Lead Temperature (Soldering 10 sec)	260°C
ESD HBM (Human Body Mode)	2KV
ESD MM (Machine Mode)	200V

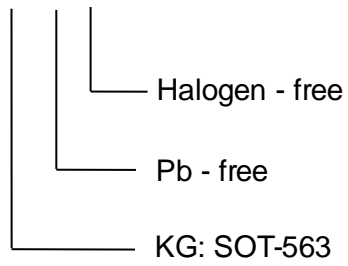


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Ordering information

ACE7357Z 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.

ACE Technology Co., LTD.
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