ACE72860Z

60V/2.5A, High Efficiency Synchronous Step-Down Converter

Description

ACE72860Z is a high-efficiency and high-frequency DC- to-DC step-down switching regulator with up to 60V operation input voltage and up to 62V standoff voltage. It is capable of delivering up to 2.5A output current. ACE72860Z 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. The adaptive COT control also maintains a constant switching frequency across line and load.

ACE72860Z provides multiple functions for more design flexibility. The adjustable switching frequency and selectable light load operation mode make ACE72860Z suitable for a wide range of applications. Short-circuit and thermal-overload protection improve design reliability.

ACE72860Z is available in DFN3x3-10 package

Features

- Wide Input Range: 8V-60V
- 62V Standoff Input Voltage
- Up to 2.5A Output Current
- Adaptive COT Control
- Adjustable Switching Frequency
- Selectable Power Save and Forced PWM Mode
- Ultra-fast Load Transient Response
- Internal Power FETs
- Thermal Shutdown and UVLO
- Available in DFN3x3-10 Package

Application

- Telecommunications infrastructure
- Asset and fleet management systems
- Video surveillance

Absolute Maximum Ratings

Parameter		Value
IN Voltage		62V
EN, RON, SW Voltage		VIN+0.3V
BST Voltage		SW+6V
PG Voltage		17V
FB, MODE Voltage		6V
VCC Voltage		28V
SW to ground current		Internally limited
Junction Temperature		150°C
Storage Temperature Range		-55°C to 150°C
Thermal Resistance	θ_{JA}	10°C /W
	θ_{JC}	30°C /W
Lead Temperature (Soldering 10ssec)		260°C

Note: Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.

Recommended Operating Conditions

Parameter	Value
Ambient Temperature Range	-40°C to 85°C
Junction Temperature Range	-40°C to 125°C

Ordering information

ACE72860Z XX+ H

- XX+ H: Halogen - free
- XX+ H: Pb - free
- XX: ON: DFN3*3-10

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 shoes 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.