



ACE74635Z

35V/4A Synchronous Step-Down Converter

Description

ACE74635Z is a high efficiency synchronous buck converter that can deliver up to 4A (peak) output current. The device operates with wide input voltage range from 4.6V to 35V, and integrates synchronous switches with very low R_{DS_ON} (56mOhm/29mOhm) to minimize the conduction loss and thermal performance. ACE74635Z uses a constant current mode architecture. Step-down duty ratio can reach 100% without large ripples. It includes constant current (CC)/ constant voltage (CV) output regulation and output load compensation. It also includes external programmable switching frequency for EMI optimization. ACE74635Z is available in ESOP-8 package.

Features

- Wide Input Voltage Range: 4.6V~35V
- 38V Input Standoff Voltage
- High Efficiency PFM Mode at Light Load
- Capable of Delivering Peak 4A Output Current
- 100% Duty Cycle
- Support CC/CV Output
- Load Compensation Function
- Adjustable Switching Frequency
- Current Mode Control
- Logic Control Shutdown
- Thermal Shutdown and UVLO
- Available in ESOP-8 Package
- Pb Free, RoHS and REACH Compliant
- Halogen Free and “Green” Device

Applications

- Car Chargers
- Industrial Applications
- Automotive Applications



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Absolute Maximum Ratings

Parameter			Value
IN Pin Voltage			-0.3V~38V
EN Pin Voltage			-0.3V to V _{IN} +0.3V
SW Pin Voltage			−0.3V (-3V for 10ns) to V _{IN} +0.3V (40V for 10ns)
BST Voltage			-0.3V to SW+6V
FB, LDO, OSC Pin Voltage			-0.3V~6V
SW Pin to ground current			Internally limited
Junction Temperature			150°C
Storage Temperature Range			-55°C to 150°C
Thermal Resistance	ESOP-8	θ _{JC}	10°C/W
		θ _{JA}	50°C/W
Lead Temperature (Soldering, 10sec)			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

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



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Ordering Information

ACE74635Z XX + H

└──	Halogen - free
└──	Pb - free
└──	I M: ESOP-8



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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 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 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.