ACE716EA

Single Channel Boost LED Driver

Description

The ACE716EA is a high efficiency step-up converter with an integrated 40V power MOSEFT. It runs with an optimal 1MHz frequency that enables use of small external components while still providing best efficiencies. It has an internal current limit as high as 2.5A, and can drive up to 10 LEDs with total 150mA output current. The incorporated 10-100KHz true PWM-Dimming feature by EN pin can be used to digitally program the LED current. For maximum protection, the ACE716EA has an internal OVP protection at 38V to prevent the chip from damages when the LED string is not connected to the output.

Features

- Up to 95% efficiency
- 1MHz switching frequency
- Integrated 2.5A 40V current limit MOSFET
- 200mV Feedback Voltage
- Drive up to 10 LEDs with 150mA
- Input voltage range 2.7V - 30V
- 38V Open LED Protection
- Thermal shutdown
- Support 0.2% PWM dimming
- SOT-23-6 & DFN2*2-6L Package

Application

- POS Machine
- Tablet
- Cellphone and Smartphone

Absolute Maximum Ratings(1)

Parameter			Value
IN Voltage			–0.3V to 34V
SW Voltage			–0.3V to 40V
All Other PIN Voltages			–0.3V to 6.5V
SW to ground current			Internally limited
Ambient Temperature Range			–40°C to 85°C
Junction Temperature Range			–40°C to 150°C
Storage Temperature Range			–55°C to 150°C
Thermal Resistance(2)	SOT-23-6	θ_{JA}	100 °C/W
		θ_{JC}	50 °C/W
	DFN2*2-6L	θ_{JA}	80 °C/W
		θ_{JC}	40 °C/W
ESD HBM (Human Body Mode)			1 KV
ESD CDM (Charged Device Mode)			1 KV

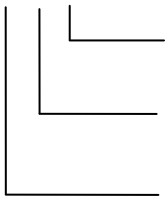
Note:

(1).Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.

(2). Measured on 1oz two-layer ACE evaluation board, Ta=25°C; the top of SOT-23-6/DFN2*2-6L is the position where θ_{JC} is measured.

Ordering Information

ACE716EA XX + H



- Halogen - free
- Pb - free
- GM: SOT-23-6
  MN: DFN2*2-6L

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.