



ACE7D355Z

Step-Down Constant Current LED Driver

Description

The ACE7D355Z is a high-efficiency, DC to DC step-down constant current LED driver, capable of delivering up to 1A of output current. The device operates from an input voltage range of 3V to 5.5V and use 0.1V FB voltage to achieve high efficiency. Running at a fixed frequency of 1.35 MHz allows the use of small inductance value and low DCR inductors, thereby achieving higher efficiencies. Other external components, such as ceramic input and output caps, can also be small due to higher switching frequency. The incorporated 20-100KHz true PWM-Dimming feature by EN pin can be used to digitally program the LED current. The internal soft-start control circuitry reduces inrush current. Short and open LED protections improve design reliability.

Features

- 1.35MHz Switching Frequency
- 0.1V FB Voltage
- Up to 90% Efficiency
- True PWM Current Program
- Open LED Protection
- Short LED Protection
- Available in SOT-23-5 and DFN1.6*1.6-6 package

Applications

- 1 Cell Li-Ion Battery Powered Flashlight
- IP CAM



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Absolute Maximum Ratings ⁽¹⁾

Parameter		Value	
IN, EN, Voltage		-0.3V to 7.5V	
SW Voltage		-0.3V to 7.5V	
FB Voltage		-0.3V to 6V	
Operating Temperature Range		-40°C to 85°C	
Storage Temperature Range		-55°C to 150°C	
Lead Temperature (Soldering 10sec)		260°C	
Thermal Resistance ⁽²⁾	SOT-23-5	θ_{JA}	220°C/W
		θ_{JC}	110°C/W
	DFN1.6*1.6-6	θ_{JA}	106°C/W
		θ_{JC}	58°C/W

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, $T_a=25^\circ\text{C}$; the top of SOT23-5/DFN-6 is the position where θ_{JC} is measured.

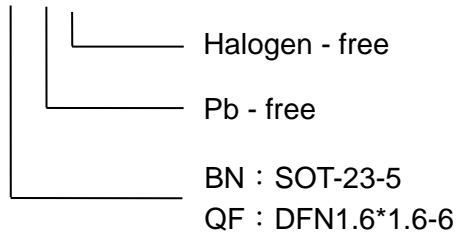


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Ordering information

ACE7D355Z 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.