



# ACE73651Z

## 6.5V/1A, 3MHz Synchronous Step-Down Converter

### Description

The ACE73651Z is a high-efficiency, DC to DC step-down switching regulator, capable of delivering up to 1A of output current. The devices operate from an input voltage range of 2.6V to 6.5V and provide output voltages from 0.6V to VIN, making the ACE73651Z ideal for low voltage power conversions. Running at a fixed frequency of 3MHz 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, while maintaining exceptional low noise output voltages. Built-in EMI reduction circuitry makes this converter ideal power supply for RF applications. Internal soft-start control circuitry reduces inrush current. Short-circuit and thermal-overload protection improves design reliability.

### Features

- Input Voltage Range: 2.6~5.5V
- Up to 96% Efficiency
- Up to 1A Max Output Current
- 3MHz Switching Frequency
- Light Load operation
- Internal Compensation
- SOT563 Package
- DFN1.6x1.6-6 Package
- Pb Free, RoHS and REACH Compliant
- Halogen Free and “Green” Device

### Application

- LCD TV
- Set Top Box
- IP CAM



# ACE73651Z

## 6.5V/1A, 3MHz Synchronous Step-Down Converter

### Absolute Maximum Ratings

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

Parameter		Value	
IN, EN, SW Voltage		9V	
FB Voltage		6V	
Junction Temperature		150°C	
Storage Temperature Range		-55°C to 150°C	
Thermal Resistance <sup>(1)</sup>	$\theta_{JA}$	SOT-563	99.8°C/W
		DFN1.6*1.6-6(A)	46.5°C/W
		DFN1.6*1.6-6(B)	59.6°C/W
	$\theta_{JC}$	SOT-563	37.9°C/W
		DFN1.6*1.6-6(A)	18.6°C/W
		DFN1.6*1.6-6(B)	15.1°C/W
Lead Temperature (Soldering 10sec)		260°C	

Note: (1) Measured on 2OZ two-layer ACE evaluation board,  $T_A=25^\circ\text{C}$

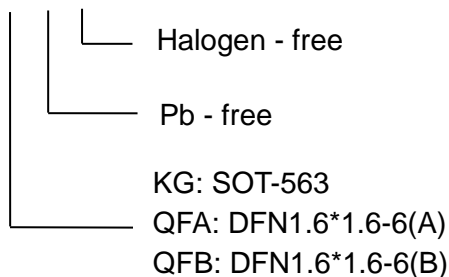
### Recommended Operating Conditions

The device is not guaranteed to function outside its operating conditions.

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

### Ordering Information

ACE73651Z XX + H





# ACE73651Z

## 6.5V/1A, 3MHz Synchronous Step-Down Converter

### 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.  
<http://www.ace-ele.com/>