ACE7125Y

High Efficiency 1MHz, 2.1A Step Up Regulator

Description

ACE7125Y is a fixed frequency peak current mode asynchronous boost converter. Requires an external Schottky diode. ACE7125Y works in light load mode when the load is light, and its quiescent current is about 100μA. The 150mΩ $R_{DS(ON)}$ of the integrated NMOS ensures the high efficiency in all load conditions. Input voltage range is 2.3V~25V. Internal operating frequency is set to 1.0MHz.

Features

- Wide input range:
- 2.3-25V bias input, 25V Vout max
- 1MHz switching frequency
- Minimum on time: 100ns typical
- Minimum off time: 100ns typical
- Low $R_{DS(ON)}$: 0.15Ω
- RoHS Compliant and Halogen Free
- Accurate Reference: 0.6VREF
- Compact package: SOT23-6

Application

- WLED Drivers
- Networking cards powered from PCI or PCI-express slots
- Large LCD display backlight driving up to 90 LEDs
- Satellite STB
- Other application which needs high voltage and high current generation
- Portable power bank

Absolute Maximum Ratings

Parameter		Rating	Unit
IN, EN		26	V
LX		26	V
All other pins		6	V
Power Dissipation, PD		0.4	W
Package Thermal Resistance	θ_{JA}	250	°C/W
	θ_{JC}	130	
Junction Temperature Range		150	°C
Lead Temperature		260	°C
Storage Temperature Range		-65 to 150	°C
ESD	HBM	2	kV

Stresses beyond those listed under “Absolute Maximum Rating” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other condition beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Recommended Work Conditions

Parameter	Rating	Unit
IN,LX	2.3 to 25	V
All other pins	0 to 5.5	V
Junction Temperature Range	-40 to 125	°C
Ambient Temperature Range	-40 to 85	°C

The Recommended Operating Conditions table defines the conditions for actual device operation. Recommended Operating conditions are specified to ensure optimal performance to the datasheet specifications. DIOO does not Recommend exceeding them or designing to Absolute Maximum Ratings.

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.