



ACE71200RT

1.1MHz, White LED Step-up DC/DC Converter

Description

The ACE71200RT is a step-up DC/DC converter specifically designed for driving white LEDs with constant current. The ACE71200RT operate at frequency up to 1.1MHz, allowing for small external inductor and capacitor components. The LED is connected in series, so that ensuring the current flowing through each LED is the same, thus obtain the consistent brightness. ACE71200RT supports peak current up to 1200mA, and can withstand voltage up to 40V. With a single lithium-ion battery, the ACE71200RT can drive up to 30 LEDs. With Single-cell lithium-ion battery, ACE71200RT can drive a string of 12 LEDs or 10 strings of 3 LEDs. As the supply voltage increases, the ACE71200RT can drive more LEDs, making it ideal for small to large size panel backlighting. The ACE71200RT has a built-in soft start function to limit the inrush current during startup. The ACE71200RT has built-in over-current and over-temperature protection enhancing application safety. ACE71200RT is pulse width modulation (PWM) dimming, and available in SOT-23-6 package.

Features

- A single lithium-ion battery can drive a single string of 12 white LEDs
- A single lithium-ion battery can drive 10 strings LEDs, each string has 3 white LEDs
- Support 1.1MHz switching frequency
- 300mV feedback voltage
- 1200mA switch current limit
- Shutdown current: $<1\mu\text{A}$
- PWM dimming duty cycle support as low as 1%
- PWM dimming frequency above 1kHz
- Built-in soft start function to limit the inrush current during startup
- Built-in over-current, over-temperature and over-voltage protection
- Available in SOT-23-6 package

Application

- PDAs, Handheld Computers, GPS Receivers
- Portable Media Players, Portable TVs
- Infrared LED drive
- Night vision camera
- Smart Phone Backlighting
- Tablet Backlighting



ACE71200RT

1.1MHz, White LED Step-up DC/DC Converter

Absolute Maximum Ratings ^(Note)

Item	Min	Max	Unit
VIN to Ground Voltage	-0.3	6	V
SW, OVP to Ground Voltage	-0.3	45	V
$\overline{\text{SHDN}}$, FB to Ground Voltage	-0.3	6	V
Maximum Power Dissipation, P _D @ T _A =25°C		0.45	W
Operating Temperature Range	-40	85	°C
Package Thermal Resistance, θ_{JA}		200	°C/W
Maximum Junction Temperature		165	°C
Storage Temperature Range	-65	150	°C
Reflow Temperature (Soldering 10 Seconds)		260	°C
Human Body Model ESD Parameters (100pF Capacitor, Series 1.5K Ω)		2000	V
Latch Up		200	mA

Note:

Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Recommended Operating Conditions

Item	Min	Max	Unit
VIN to Ground	3	5.5	V
Operating Junction Temperature	-40	125	°C
SW, OVP to GND	0	40	V

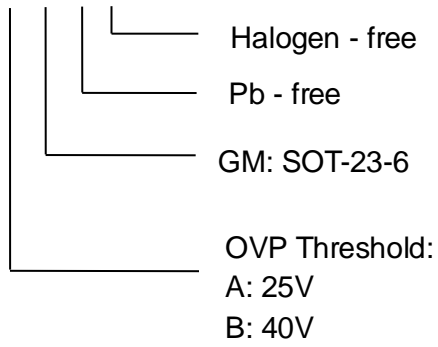


ACE71200RT

1.1MHz, White LED Step-up DC/DC Converter

Ordering Information

ACE71200RT X XX + H





ACE71200RT

1.1MHz, White LED Step-up DC/DC 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/>