ACE7306X

2.5A, 5V Synchronous Buck Converter

Description

The ACE7306X is a compact 5V Buck Converter which can deliver 2.5A output current. ACE7306X employs a proprietary control loop to achieve a fast transient load response. It keeps high converting efficiency in both light load and heavy load. ACE7306X is equipped with all kinds of protection, such as input over voltage protection, output short circuit protection, over current protection and over temperature protection. ACE7306X consists of internal power tree generator, bandgap voltage reference module, under-voltage-lockout (UVLO) module, error amplifier, protection circuitry, driver block, current sensing block and two power MOSFETs.

Features

- Output current up to 2.5A
- Input operation range: 2.7 to 5.5V
- Input over voltage protection at 6V
- 40uA quiescent current in operation
- OCP, SCP and OTP protection
- Efficiency up to 97%
- Available SOT-23-5 Packages

Applications

- WIFI and Network Devices
- Security surveillance system
- Set-top Box
- Solid State Drive
- All other electronic devices

Absolute Maximum Ratings

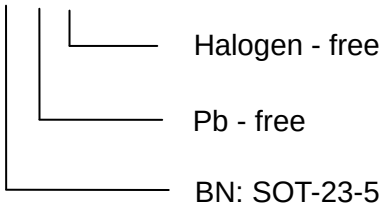
Parameter		Value
V_{IN} (1)		-0.3V to 6V
V_{OUT} (1)		-0.3V to 5.5V
Continuous Power Dissipation (T_A = 25℃) (2)		0.4W
Junction Temperature		-40℃ to 125℃
Lead Temperature		260℃
Storage Temperature		-65℃to 150℃
Thermal Resistance (3)	θ_{JA}	170℃/W
	θ_{JC}	75℃/W

Note:

1. Exceeding these ratings may damage the device.
2. The maximum allowable power dissipation is a function of the maximum junction temperature T_J(MAX), the junction-to-ambient thermal resistance $\theta_{JA,}$ and the ambient temperature T_A. The maximum allowable continuous power dissipation at any ambient temperature is calculated by $P_D(MAX)=(T_J(MAX)-T_A)/\theta_{JA}$. Exceeding the maximum allowable power dissipation will cause excessive die temperature, and the regulator will go into thermal shutdown. Internal thermal shutdown circuitry protects the device from permanent damage.
3. Measured on JESD51-7, 4-layer PCB.

Ordering Information

ACE7306X XX + H



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.