



ACE5177X

7V 300mA 75dB High PSRR, High Speed LDO

Description

ACE5177X is a low dropout, positive linear regulator with very low quiescent current. It can supply 300mA output current with a input range from 1.7V to 7V, which makes it suitable for all kinds of applications.

ACE5177X uses advanced CMOS technology to achieve very low dropout voltage (300mV @300mA). Fast structural design achieves 75dB PSRR at 1kHz while still maintaining a small 50uA quiescent current.

Trimming technique is used to guarantee output voltage accuracy within $\pm 1\%$.

ACE5177X provides full fault protection including current limit, short circuit protection and thermal shut down.

Only 1uF ceramic capacitor is required to maintain stability and fast response. 4000V HBM ESD is guaranteed by design.

ACE5177X is available in SOT23-5 package.

Features

- 1.7V to 7V wide input range
- $\pm 1\%$ output accuracy
- Adjustable Output from 0.6V to ($V_{in} - V_{drop}$)
- 300mA maximum load
- 75dB PSRR @ 1kHz
- 50uA low quiescent current
- 0.02%/V Line regulation
- $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$ wide operating temperature
- Foldback short circuit protection.
- Auto discharge function
- 150°C thermal protection
- 4000V HBM ESD

Application

- Battery powered portable devices
- Smart phone, tablet
- Hi resolution camera sensor power
- Wireless modules
- RF, PLL, VCO clock power



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Absolute Maximum Ratings

| Parameter | Value |
|-------------------------------------|---------------|
| Max Input Voltage | 10V |
| Operating Junction Temperature (TJ) | 150°C |
| Ambient Temperature (TA) | -40°C ~125°C |
| Power Dissipation | 220°C/W |
| Storage Temperature (TS) | -40°C~150°C |
| Lead Temperature & Time | 260°C, 10 Sec |

Note: Exceed these limits to damage to the device.

Exposure to absolute maximum rating conditions may affect device reliability.



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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.