# ACE5060D

**Ultra Fast High PSRR Low Noise CMOS Voltage Regulator**

## Description

The ACE5060D series are a group of positive voltage regulators manufactured by CMOS technologies with high ripple rejection, ultra low noise, low power consumption and low dropout voltage, which can prolong battery life in portable electronics. The ACE5060D series work with low-ESR ceramic capacitors, reducing the amount of board space necessary for power applications. The ACE5060D series consume less than 0.1μA in shutdown mode and have fast turn-on time less than 50μS.The series are very suitable for the battery-powered equipment's, such as RF applications and other systems requiring a quiet voltage source.

## Features

- Low Output Noise: 40μ$V_{RMS}$ (10Hz~100kHz)
- Low Dropout Voltage: 50mV@100mA
- Low Quiescent Current: 45μA
- High Ripple Rejection: 85dB@1kHz
- Excellent Line and Load Transient Response
- Operating Voltage Range: 1.8V ~ 6.0V
- Output Voltage Range: 0.85V ~ 5.0V
- High Accuracy: ±2% (Typ.)
- Built-in Current Limiter, Thermal shutdown and Short-Circuit Protection
- TTL-Logic-Controlled Shutdown Input

## Application

- Battery-Powered Equipment
- Radio control systems
- Cellular and Smart Phones
- Laptop, Palmtops and PDA
- Digital Still and Video Cameras
- Portable Audio Video Equipment

## Absolute Maximum Ratings(Note 1)

Unless otherwise specified, $T_A$=25°C.

| Parameter | | Symbol | Ratings | Unit |
|---|---|---|---|---|
| Input Voltage(Note 2) | | $V_{IN}$ | -0.3~7 | V |
| Output Voltage(Note 2) | | $V_{OUT}$ | -0.3~$V_{IN}$+0.3 | V |
| Output Current | | $I_{OUT}$ | 750 | mA |
| Power Dissipation | SOT-23-3 | $P_D$ | 250 | mW |
| | SOT-23-5 | | 250 | mW |
| | DFN1*1-4 | | 400 | mW |
| | SOT-89-3 | | 600 | mW |
| | SOT-89-5 | | 600 | mW |
| Operating Free Air Temperature Range | | $T_A$ | -40 to 85 | °C |
| Operating Junction Temperature Range | | $T_J$ | -40 to 125 | °C |
| Storage Temperature | | $T_{stg}$ | -40 to 125 | °C |
| Lead Temperature (Soldering, 10 sec) | | $T_{solder}$ | 260 | °C |
| ESD Rating | | Human Body Model-(HBM) | 2 | kV |
| | | Machine Model-(MM) | 200 | V |

Note:

1. 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 my affect device reliability.

2. All voltages are with respect to network ground terminal.

## Recommended Operating Conditions

| Parameter | Min. | Max. | Units |
|---|---|---|---|
| Supply Voltage at $V_{IN}$ | 1.8 | 6 | V |
| Operating Junction Temperature Range, $T_J$ | 0 | 125 | °C |
| Operating Free Air Temperature Range, $T_A$ | 0 | 85 | °C |

## Ordering Information

ACE5060D XXX XXX + H

- Halogen - free
- Pb - free
- BMA：SOT-23-3A
- BMB：SOT-23-3B
- BMC：SOT-23-3C
- BMD：SOT-23-3D
- BNA：SOT-23-5A
- BNB：SOT-23-5B
- BNC：SOT-23-5C
- I N：DFN1*1-4
- AMA：SOT-89-3A
- AMB：SOT-89-3B
- AN：SOT-89-5
- Output Voltage：0.85V/……/5.0V

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.