



# ACE5055LB

## 300mA Ultra-low Noise, Ultra-Fast CMOS LDO Regulator

### Description

The ACE5055LB is designed for portable applications with demanding performance and space requirements. The ACE5055LB performance is optimized for battery-powered systems to deliver ultra-low noise and low quiescent current. Regulator ground current increases only slightly in dropout, further prolonging the battery life. The ACE5055LB also works with low-ESR ceramic capacitors, reducing the amount of board space necessary for power applications, critical in hand-held wireless devices. The ACE5055LB consumes only 0.01 $\mu$ A current in shutdown mode and has fast turn-on time (Typical 50 $\mu$ s). The other features include ultra-low dropout voltage, high output accuracy, current limiting protection, and high ripple rejection ratio.

### Features

- Ultra-low Noise
- Ultra-Fast Response in Line/Load Transient
- 0.01 $\mu$ A Standby Current When Shutdown
- Low Dropout: 205mV@300mA
- Wide Operating Voltage Ranges: 2.2V to 6V
- Low Temperature Coefficient
- Current Limiting Protection
- Thermal Shutdown Protection
- Only 1 $\mu$ F Output Capacitor Required for Stability
- High Power Supply Rejection Ratio
- Fast output discharge
- Available in SOT23-5 、 SOT23-3 、 SC70-5 and DFN1x1-4L Package

### Application

- Cellular and Smart Phones
- Cordless Telephones
- Battery-Powered Equipment
- Laptop, Palmtops, Notebook Computers
- Hand-Held Instruments
- PCMCIA Cards
- MP3/MP4/MP5 Players
- Portable Information Appliances



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### Absolute Maximum Ratings <sup>(Note1)</sup>

Parameter		Value	
Input Supply Voltage (VIN)		-0.3V to 6V	
EN Pin Input Voltage		-0.3V to VIN	
Output Voltage		-0.3V to VIN+0.3V	
Output Current		300mA	
Maximum Junction Temperature		150°C	
Operating Temperature Range <sup>(Note2)</sup>		-40°C to 85°C	
Storage Temperature Range		-65°C to 125°C	
Lead Temperature (Soldering, 10s)		300°C	
Thermal Resistance <sup>(Note3)</sup>	$\Theta_{JA}$	SOT23-5	250°C/W
		SC70-5	333°C/W
	$\Theta_{JC}$	SOT23-5	130°C/W
		SC70-5	170°C/W

Note 1: Absolute Maximum Ratings are those values beyond which the life of a device may be impaired.

Note 2: The ACE5055LB is guaranteed to meet performance specifications from 0°C to 70°C. Specifications over the -40°C to 85°C operating temperature range are assured by design, characterization and correlation with statistical process controls.

Note 3: Thermal Resistance is specified with approximately 1 square of 1 Oz copper.

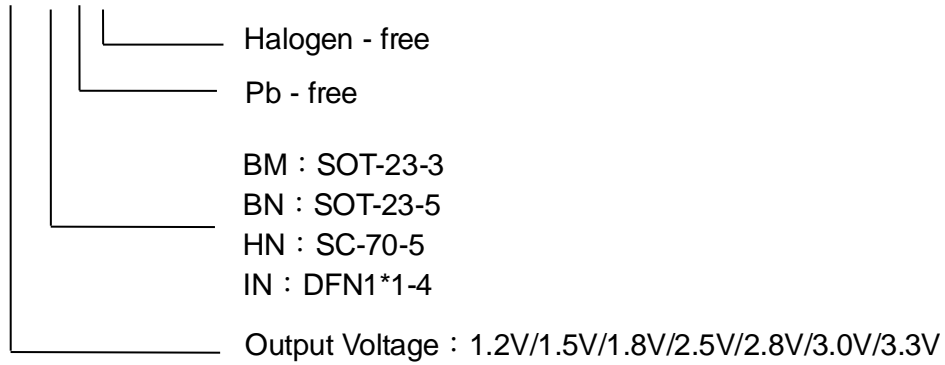


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## Ordering information

ACE5055LB XX XX+H





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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.

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