



# ACE5513TB

## Low Noise, High PSRR, High Speed, CMOS LDO

### Description

The ACE5513TB is a high accuracy, low noise, high speed, low dropout CMOS Linear regulator with high ripple rejection and fast discharge function. The device offers a new level of cost-effective performance in cellular phones, surveillance system, Bluetooth, wireless and other portable electronic devices.

ACE5513TB can provide product selections of output value in the range of 1.2V~3.6V by every 0.1V step. The current limiter's fold-back circuit also operates as a short circuit protection and an output current limiter at the output pin.

The ACE5513TB regulators are available in standard SOT23-5 and DFN1x1-4 packages. Standard products are Pb-free and Halogen-free.

### Features

- Input voltage: 2.5V~6.5V
- Output range: 1.2V~3.6V (customized by every 0.1V step)
- Output current: 350mA @  $V_{IN}-V_{OUT}=0.5V$
- PSRR: 75dB @1KHz
- Dropout voltage: 220mV @  $I_{OUT}=200mA$
- Quiescent current: 50 $\mu$ A Typ.
- Shut-down current: < 1 $\mu$ A
- Recommend capacitor: 1 $\mu$ F
- Ultra-low output noise: 100 $\mu$ V<sub>RMS</sub>

### Application

- Digital cameras
- Cellphones
- Bluetooth and wireless handsets
- Other portable electronic devices



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

Symbol	Items	Value	Unit
V <sub>IN</sub>	Input Voltage	-0.3~7	V
I <sub>OUT</sub>	Output Current	400	mA
P <sub>DMAX</sub>	Power Dissipation	SOT-23-5	0.45
		DFN1*1-4	0.55
R <sub>θJA</sub>	Thermal Resistance	SOT-23-5	270
		DFN1*1-4	220
T <sub>J</sub>	Junction Temperature	-40~125	°C
T <sub>A</sub>	Ambient Temperature	-40~85	°C
T <sub>STG</sub>	Storage Temperature	-55 to 150	°C
T <sub>SOLDER</sub>	Package Lead Soldering Temperature	260°C, 10s	
ESD	HBM	±2.5	KV

Note: Exceed these limits could damage the device. Exposure to absolute maximum rating conditions may affect device reliability.  $P_{DMAX} = (V_{IN} - V_{OUT}) * I_{OUTMAX}$

### Recommended Operation Range

Symbol	Items	Value	Unit
V <sub>IN</sub>	VIN Supply Voltage	2.5 to 6.5	V
I <sub>OUT</sub>	Output Current	<300	mA
T <sub>OPT</sub>	Operating Temperature	-40 to 85	°C
C <sub>IN</sub>	Input Capacitor	1μF ~10μF, 1μF is recommended	μF
C <sub>OUT</sub>	Output Capacitor		μF

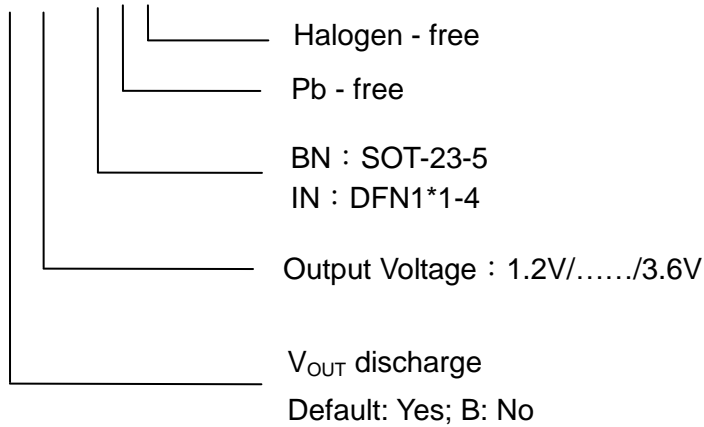


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## Ordering information

ACE5513TB X 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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