



ACE521

250mA CMOS Low consumption Linear Regulator

Description

ACE521 series is a group of positive voltage output, low power consumption, low dropout voltage, three terminal regulator. It can provide 200mA output current when input / output voltage differential drops to 420mV($V_{out}=3.3V$), And it also provides foldback short-circuit protection and output current limit function. The very low power consumption of ACE521 ($I_q=2.0\mu A$) can greatly improve natural life of batteries.

ACE521 can provide output value in the range of 1.1V~5.0V in 0.1V steps. It also can customized on command.

ACE521 includes high accuracy voltage reference, error amplifier, current limit circuit and output driver module.

ACE521 has well load transient response and good temperature characteristic, And it uses trimming technique to guarantee output voltage accuracy within $\pm 2\%$.

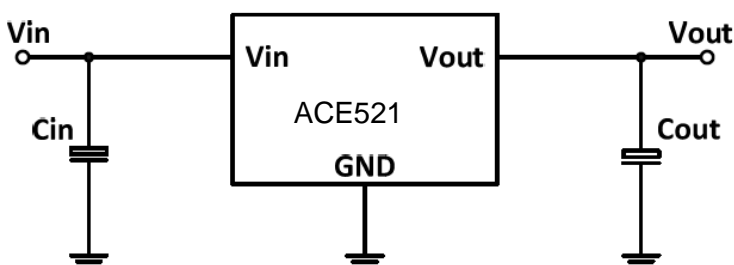
Features

- Low Power Consumption: $2.0\mu A$ (Typ.)
- Maximum Output Current: $250mA$
- Small Dropout Voltage
210mV@100mA ($V_{out}=3.3V$)
420mV@200mA ($V_{out}=3.3V$)
- Input Voltage Range: 2V~16V
- Output Voltage Range: 1.1V~5.0V (customized on command in 0.1V steps)
- Highly Accurate: $\pm 2\%$ ($\pm 1\%$ customized)
- Output Current Limit $330mA@V_{out}=3.3V$
- Foldback Short-circuit Current $56mA@V_{out}=3.3V$

Application

- Battery Powered equipment
- Power Management of MP3. PDA. DSC. Mouse. PS2 Games
- Reference Voltage Source Regulation after Switching Power

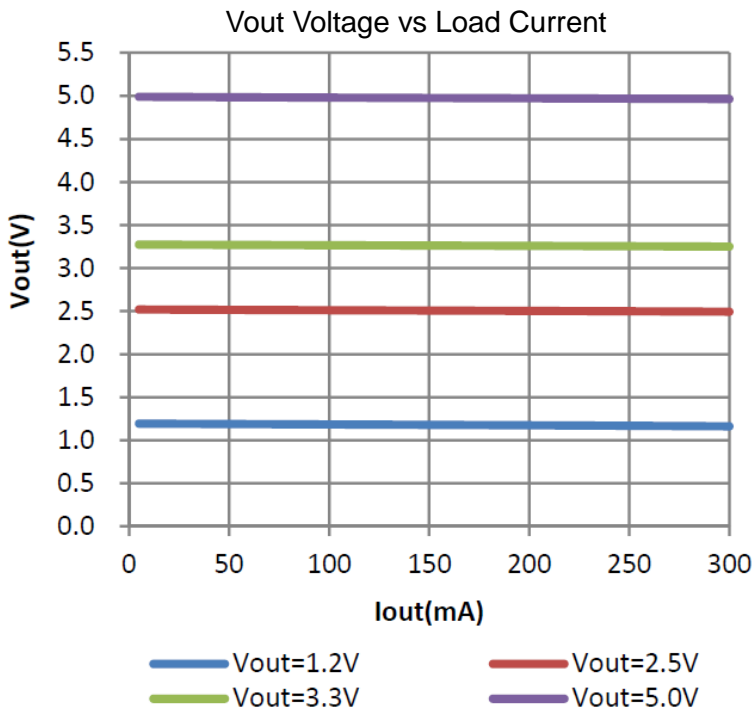
Typical Application



Note: Input capacitor ($C_{in}=1\mu F$) and Output capacitor ($C_{out}=1\mu F$) are recommended in all application circuit. Ceramic capacitor is recommended.



Electrical Characteristics



Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Max Input Voltage		20	V
Power Dissipation			mW
SOT-23-3		250	
SOT-23-5		250	
SOT-89-3		500	
Operating Junction temperature	T _J	125	°C
Storage temperature	T _S	- 45 ~ 150	°C
Ambient Temperature	T _A	-40 ~ 85	°C

Note: Exceed these limits to damage to the device.

Exposure to absolute maximum rating conditions may affect device reliability.

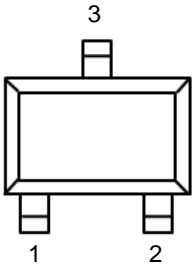


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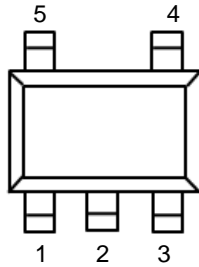
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Packaging Type

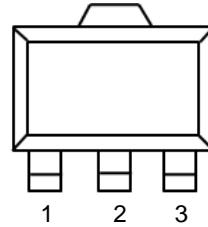
SOT-23-3



SOT-23-5

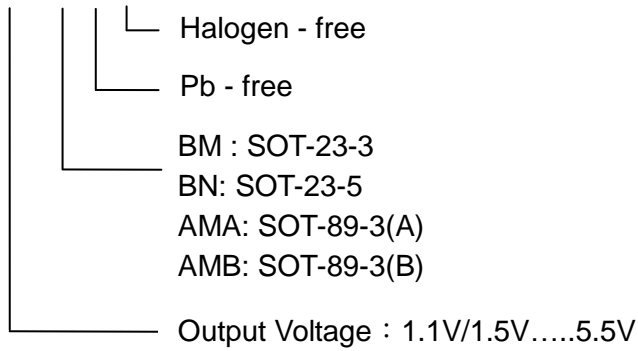


SOT-89-3



Ordering information

ACE521 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 Electronics 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 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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