



ACE51765P

500mA, High PSRR, High Speed, Low Dropout CMOS LDO

Description

The ACE51765P 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. ACE51765P can provide product selections of output value in the range of 1V~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 ACE51765P regulators are available in standard SOT-23-5 and DFN1*1-4 packages.

Features

- Input voltage: 1.7V~6.5V
- Available in Fixed Voltage Options: 1V to 3.6V (customized by every 0.1V step)
- Dropout voltage: 180mV @ $V_{OUT}=3.3V$, $I_{OUT}=400mA$
- Quiescent current: 70 μ A Typ.
- Shut-down current: < 1 μ A
- Maximum output current: 500mA @ $V_{IN}-V_{OUT}=0.5V$, $V_{OUT} > 2V$
- PSRR: 70dB @1KHz
- Ultra-low output noise: 60 μ VRMS @ $V_{OUT}=3.3V$, $I_{OUT}=30mA$
- Recommend input and output capacitor: 1 μ F

Applications

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



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Absolute Maximum Ratings (Note)

Symbol	Items	Value	Unit
V_{IN}	Input Voltage	-0.3~8	V
I_{OUT}	Output Current	750	mA
P_{DMAX}	Power Dissipation	SOT-23-5	0.5
		DFN1*1-4	0.5
$R_{\theta JA}$	Thermal Resistance	SOT-23-5	270
		DFN1*1-4	220
T_J	Junction Temperature	-40 to 150	°C
T_A	Ambient Temperature	-40 to 85	°C
T_{STG}	Storage Temperature	-55 to 150	°C
T_{SOLDER}	Package Lead Soldering Temperature	260°C, 10s	°C
ESD	HBM	±7	KV
LU	Latch Up	±500	mA

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 Operating Range

Symbol	Items	Value	Unit
V_{IN}	Supply Voltage	1.7~6.5	V
I_{OUT}	Output Current	≤500	mA
C_{IN}	Input Capacitor	1μF to 10μF, 1μF is recommended.	μF
C_{OUT}	Output Capacitor		μF

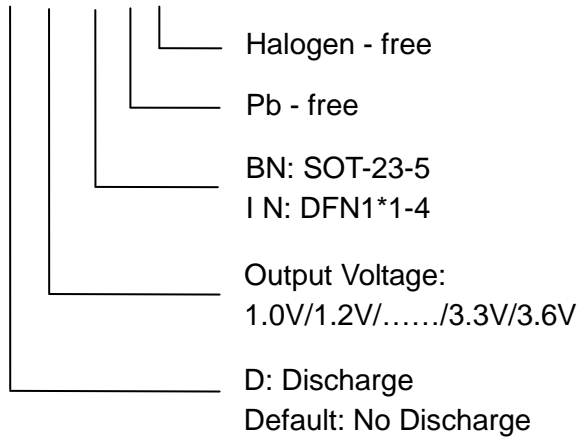


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Ordering Information

ACE51765P 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 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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