



# ACE56217P

## 18V, Low Power Consumption LDO

### Description

The ACE56217P series is a set of three-terminal, low power, high voltage regulators implemented in CMOS technology. The series features extremely low quiescent current which is typically 3 $\mu$ A. They allow input voltages as high as 18V. The device provides large current with a significantly small dropout voltage. The ACE56217P consists of a high-precision voltage reference, an error correction circuit, an over temperature protection circuit, and a current limited output driver. They are available with several fixed output voltages ranging from 1.8V to 5.0V. Adjustable output range is from 1.2V to 5.0V. CMOS technology ensures low dropout voltage and low current consumption.

### Features

- Input voltage: 3V~18V
- Fixed output range: 1.8V~5.0V
- Adjustable output range: 1.2V~5.0V
- Output current: up to 500mA (Within Max Power Dissipation)
- Dropout voltage: 120mV @  $V_{OUT}=3.3V$ ,  $I_{OUT}=100mA$
- Quiescent current: 3 $\mu$ A Typ.
- PSRR: 75dB @1KHz
- Good line regulation: 0.01%/V
- Good load regulation: 10mV@ $1mA \leq I_o \leq 100mA$
- Over current protection
- Over temperature protection
- Fast load transient response
- Soft start
- Enable control capable (SOT-89-5)

### Application

- Audio/Video equipment
- Voltage regulator for LAN cards
- Battery powered equipment
- Voltage regulator for microprocessor
- Wireless communication equipment



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

Symbol	Items	Value	Unit	
$V_{IN}$	Input Voltage	-0.3 ~ 20	V	
$V_{EN}$	EN Voltage Range	-0.3 ~ $V_{IN}$	V	
$V_{OUT}$	Output Voltage	-0.3 ~ 7	V	
$P_{DMAX}$	Power Dissipation	SOT-89-3	0.7	W
		SOT-89-5	0.8	W
$R_{\theta JA}$	Thermal Resistance	SOT-89-3	160	°C/W
		SOT-89-5	140	°C/W
$T_J$	Junction Temperature	-40 to 150	°C	
$T_A$	Ambient Temperature	-40 to 85	°C	
$T_{STG}$	Storage Temperature	-55 to 150	°C	
ESD Ratings	HBM	±4	kV	
	Latch up	±500	mA	

Note: Exceed these limits to damage to the device. Exposure to absolute maximum rating conditions may affect device reliability.

### Recommended Operation Range

Symbol	Items	Value	Unit
$V_{IN}$	Supply Voltage	3 to 18	V
$C_{IN}$	Input Capacitor	1	μF
$C_O$	Output Capacitor	1/4.7/10	μF

Note: If the output voltage is between 1.2V and 1.8V, it is recommended to use 4.7uF or 10uF for the output capacitor to meet the dynamic response requirements of the project.

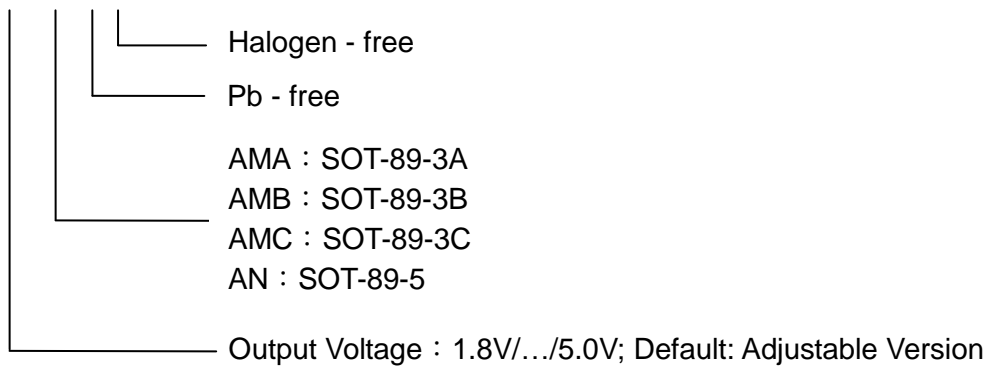


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## Ordering information

ACE56217P 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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