



# ACE5768D

## 28V Low Current Consumption 300mA CMOS Voltage Regulator

### Description

The ACE5768D series are a group of positive voltage regulators manufactured by CMOS technologies with low power consumption and low dropout voltage, which provide large output currents even when the difference of the input-output voltage is small. The ACE5768D series can deliver 300mA output current and allow an input voltage as high as 28V. The series are very suitable for the battery-powered equipments, such as RF applications and other systems requiring a quiet voltage source.

### Features

- Low Quiescent Current: 1.8 $\mu$ A
- Operating Voltage Range: 2.5V~28V
- Output Current: 300mA
- Low Dropout Voltage : 200mV@100mA ( $V_{OUT}=3.3V$ )
- Output Voltage: 1.2~ 12.0V
- High Accuracy:  $\pm 2\%/\pm 1\%$  (Typ.)
- High Power Supply Rejection Ratio: 70dB@1kHz
- Low Output Noise:
- $27 \times V_{OUT} \mu V_{RMS}$  (10Hz~100 kHz)
- Excellent Line and Load Transient Response
- Built-in Current Limiter, Short-Circuit Protection
- Over-Temperature Protection

### Application

- Smart electric meter
- In-car entertainment
- Electric bicycle



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### Absolute Maximum Ratings <sup>(1)</sup>

Parameter		Symbol	Max	Unit
Input Voltage <sup>(2)</sup>		$V_{IN}$	-0.3~33	V
Output Voltage <sup>(2)</sup>		$V_{OUT}$	-0.3~13	V
CE Pin Voltage		$V_{CE}$	-0.3~33	V
Output Current		$I_{OUT}$	600	mA
Power Dissipation	SOT-23-3	Pd	400	mW
	SOT-23-5		600	
	SOT-89-3		400	
Operating Junction Temperature Range <sup>(3)</sup>		$T_{opr}$	- 40 to 150	°C
Storage Temperature		$T_{stg}$	- 40 to 125	°C
Lead Temperature (Soldering, 10 sec)		$T_{solder}$	260 °C,10s	
ESD rating		Human Body Model -(HBM)	2	kV
		Machine Model- (MM)	200	V

- Stresses beyond those listed under absolute maximum ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under recommended operating conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
- All voltages are with respect to network ground terminal.
- The ACE5768D includes over temperature protection that is intended to protect the device during momentary overload. Junction temperature will exceed 150°C when over temperature protection is active.

### Recommended Operating Conditions

Parameter	Min.	Max.	Units
Supply voltage at $V_{IN}$	2.5	28	V
Operating junction temperature range, $T_j$	-40	125	°C
Operating free air temperature range, $T_A$	-40	85	°C

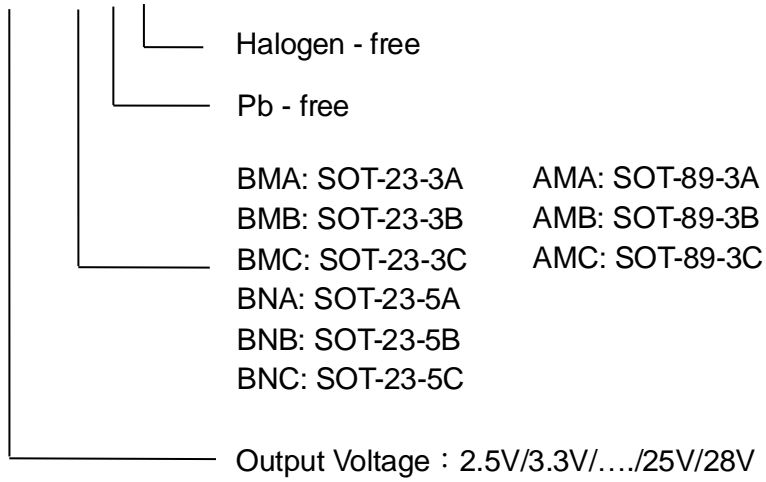


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### Ordering information

ACE5768D XXX XXX + 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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