



# ACE701D

## High Efficiency Low Noise PFM Step-up DC/DC Converter

### Description

ACE701D series are CMOS-based PFM step-up DC- DC Converter. The converter can start up by supply voltage as low as 0.8V, and capable of delivering maximum 200mA output current at 3.3V output with 1.8V input Voltage. Quiescent current drawn from power source is as low as 5.5uA. All of these features make ACE701D series be suitable for the portable devices, which are supplied by a single battery to four-cell batteries.

To reduce the noise caused by the switch regulator, ACE701D is well considerate in circuit design and manufacture. So that the interferer to other circuits by the device is reduced greatly.

ACE701D integrates stable reference circuits and trimming technology, so it can afford high precision and low temperature-drift coefficient of the output voltage.

ACE701D is available in SOT-23-3, TSOT-23-3, SOT-23-5, SOT-89-3 and TO-92 packages, which are PB free. And in 5-pin packages, such as SOT-23-5, the device can be switch on or off easily by CE pin, to minimize the standby supply current.

### Features

- Deliver 200mA at 3.3V Output voltage with 1.8V input Voltage
- Low start-up voltage (when the output current is 1mA) 0.8V
- Output voltage can be adjusted from 2.5V~6.0V (In 0.1V step)
- Output voltage accuracy $\pm 2\%$
- Low temperature-drift coefficient of the output voltage $\pm 100\text{ppm}/^\circ\text{C}$
- Only three external components are necessary: An inductor, a Schottky diode and an output filter capacitor
- High power conversion efficiency 85%
- Low quiescent current drawn from power source  $< 5.5\mu\text{A}$

### Application

- Power source for PDA. DSC. MP3 Player. electronic toy and wireless mouse
- Power source for a single or dual-cell battery-powered Equipment
- Power source for LED



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### Absolute Maximum Ratings

Parameter		Value
Input Voltage Range		-0.3V-12V
Input Voltage		-0.3V-(Vout+0.3)
CE Pin Voltage		-0.3V-(Vout+0.3)
Lx Pin Output Current		0.7A
Power Dissipation	SOT-23-3	250mW
	TSOT-23-3	250mW
	SOT-23-5	250mW
	SOT-89-3	500mW
	TO-92	500mW
Storage Temperature (Ts)		-40°C -150°C
Lead Temperature & Time		260°C, 10S

Note: Exceed these limits to damage to the device.

Exposure to absolute maximum rating conditions may affect device reliability.

### Recommended Work Conditions

Item	Min	Recommended	Max	Unit
Input Voltage Range	0.8		Vout	V
Inductor	10	27	100	μH
Input capacitor	0	≥ 10		μF
Output capacitor	47	100	220	μF
Ambient Temperature	-40		85	°C

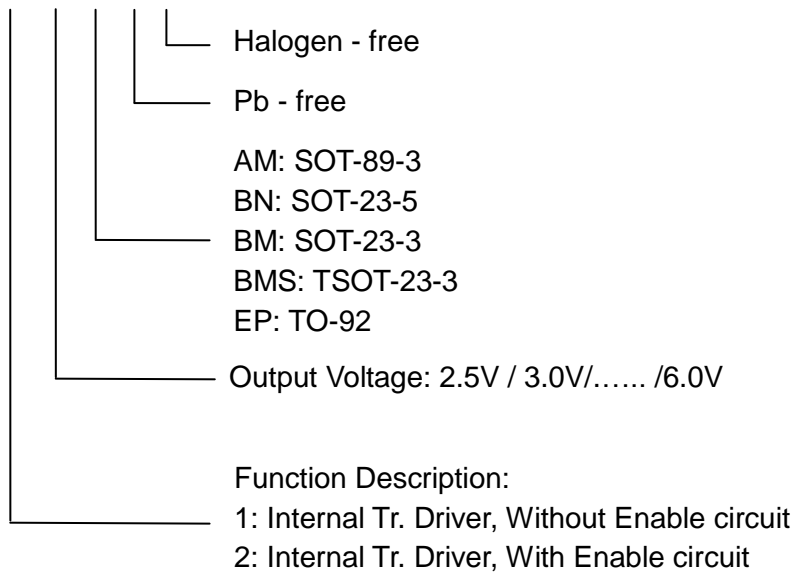


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## Ordering information

ACE701D 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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