



# ACE701CA

## Small Package PFM Control Step-Up DC/DC Converter

### Description

The ACE701CA Series is a CMOS PFM-control step-up switching DC/DC converter. The PFM controller allows the duty ratio to be automatically switched according to the load (light load: 66%, high output current: 78%), enabling products with a low ripple over a wide range, high efficiency, and high output current. With the ACE701CA Series, a step-up switching DC/DC converter can be configured by using an external coil, capacitor, and diode. The built-in MOSFET is turned off by a protection circuit when the voltage at the LX pin exceeds the limit to prevent it from being damaged. This feature, along with the mini package and low current consumption, makes the ACE701CA Series ideal for applications such as the power supply unit of portable equipment.

### Features

- Low voltage operation: Startup at 0.9 V min. ( $I_{OUT} = 1 \text{ mA}$ ) guaranteed
- Duty ratio: 66/78%, built in auto switching type PFM controller
- External parts: Coil, capacitor, diode
- Output voltage: Settable to between 1.8V to 6.0 V in 0.1 V steps
- Accuracy of  $\pm 2\%$
- High efficiency :  $\pm 85\%$  (typ.)
- Standard function (product type A)
- Shutdown function (product type C,D)
- External transistor type available (product type B · D)

### Application

- Digital cameras
- Electronic notebooks and PDAs
- Portable CD/MD players
- Cameras, video equipment
- Communications equipment
- Power supply for microcomputers

### Absolute Maximum Ratings

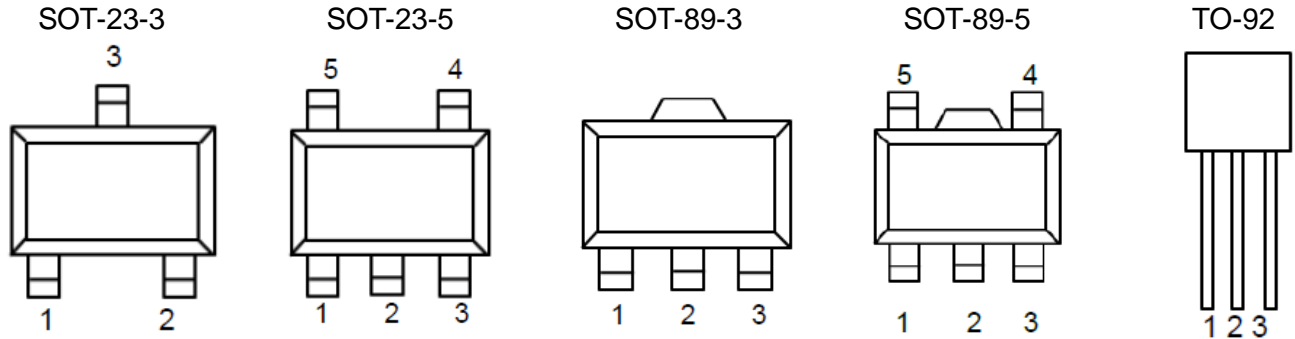
Parameter		Symbol	Max	Unit
V <sub>OUT</sub> pin voltage		V <sub>OUT</sub>	V <sub>SS</sub> -0.3 ~ V <sub>SS</sub> +8	V
EN pin voltage		EN	V <sub>SS</sub> -0.3 ~ V <sub>SS</sub> +8	V
LX pin voltage		V <sub>LX</sub>	V <sub>SS</sub> -0.3 ~ V <sub>SS</sub> +8	V
LX pin current		I <sub>LX</sub>	1000	mA
Power dissipation	SOT-23-3	PD	250	mW
	SOT-23-5		250	mW
	SOT-89-3		500	mW
	TO-92		500	mW
Operating temperature		T <sub>opr</sub>	-40 ~+85	°C
Storage temperature		T <sub>stg</sub>	-40 ~+125	°C
Soldering Temperature & Time		T <sub>solder</sub>	260°C, 10s	



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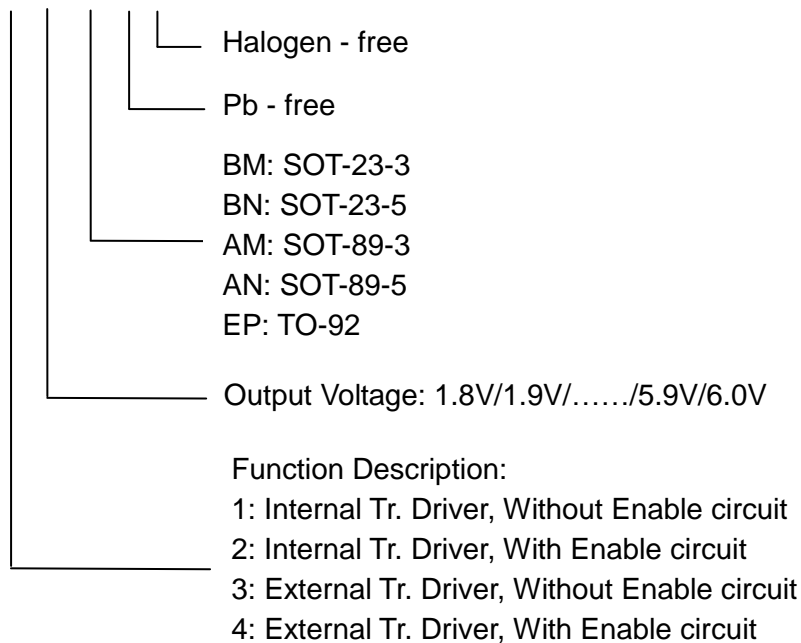
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### Packaging Type



### Ordering information

ACE701CA 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 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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