



ACE7C128RT

Low Noise, Charge Pump DC-DC Converter

Description

The ACE7C128RT is an inductor-less charge pump DC-DC converters. It produces a fixed 5V output voltage from a VIN (range from 2.7V to 4.5V). The device has been designed for low noise and high efficiency application, the maximum output current is 100mA. The free running 2MHz charge pump keeps the chip operation from interfering with hypersensitive IF frequency channel. Low external parts count (one flying capacitor and two small bypass capacitors at VIN and VOUT) makes the ACE7C128RT ideally suited for small, battery-powered applications. High switching frequency enables the use of small ceramic, and reduces both output and input ripple.

The ACE7C128RT has thermal shutdown capability and can survive a continuous short circuit from VOUT to GND. Built-in soft-start circuitry prevents excessive inrush current during start-up. A low current shutdown feature disconnects the load from VIN and reduces quiescent current to less than 1 μ A.

Features

- Inductorless charge pump DC-DC Converter
- Operating Temperature Range: -40°C to 85°C
- Input voltage range: 2.7V~5.5V
- Regulated 5V \pm 4% Output
- Maximum Output Current: 100mA
- 2MHz Free Running Switching Frequency
- Soft-Start Reduces Inrush Current
- Over Temperature/ Short-Circuit Protection
- SOT-23-6 and TSOT-23-6 Packages

Application

- PCMCIA Local 5V Supplies
- Local 3V to 5V Conversion
- White LED Backlighting
- Smart Card Readers



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Absolute Maximum Rating

Parameter	Ratings	Units
VIN to GND	-0.3 to 6	V
VOUT to GND	-0.3 to 5.5	V
$\overline{\text{SHDN}}$ to GND	-0.3 to (VIN + 0.3)	V
Operating Temperature Range	-40 to 85	°C
VOUT Short-Circuit Duration	Infinite	
Maximum Junction Temperature	145	°C
Storage Temperature Range	-65 to 150	°C
Lead Temperature (Soldering, 10 sec)	300	°C
ESD Parameters	ESD Protection (HBM, 1.5k Ω and 100pF in series)	2000 V
	ESD Protection (MM, 200pF, no resistor)	200 V

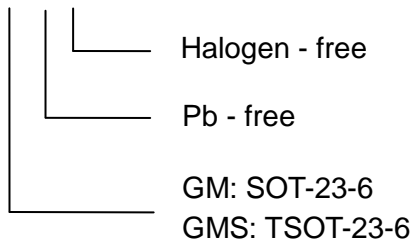


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Ordering information

ACE7C128RT 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.