ACE7054CR

Switching Current Boost DC/DC Converter

Description

The ACE7054CR regulator is a wide input range, current mode, DC/DC converter which is capable of generating either positive or negative output voltages. It can be configured as either a boost, flyback, SEPIC or inverting converter. The ACE7054CR built in N-channel power MOSFET and fixed frequency oscillator, current-mode architecture results in stable operation over a wide range of supply and output voltages. The ACE7054CR regulator is special design for portable electronic equipment applications.

Features

- Maximum 5A Switching Current
- Wide 5V to 40V Input Voltage Range
- 1.25V reference adjustable version
- Fixed 180KHz Switching Frequency
- High efficiency up to 94%
- Internal Optimize Power MOSFET
- Built in Frequency Compensation
- Built in Soft-Start Function
- Built in Thermal Shutdown Function
- Built in Current Limit Function
- SW PIN Built in Over Voltage Protection
- EN PIN TTL shutdown capability
- Excellent line and load regulation
- Positive or Negative Output Voltage Programming with a Single Feedback Pin
- Current Mode Control Provides Excellent Transient Response
- Available in TO-263-5 package

Applications

- Automotive and Industrial Boost / Buck-Boost / Inverting Converters
- EPC / Notebook Car Adapter
- Portable Electronic Equipment

Absolute Maximum Ratings (Note)

Parameter	Symbol	Value	Unit
Input Voltage	Vin	-0.3 to 40	V
Feedback Pin Voltage	VFB	-0.3 to Vin	V
EN Pin Voltage	VEN	-0.3 to Vin	V
Output Switch Pin Voltage	VSW	-0.3 to 50	V
Power Dissipation	PD	Internally limited	mW
Thermal Resistance (Junction to Ambient, No Heatsink, Free Air)	RJA	30	°C/W
Maximum Junction Temperature	TJ	-40 to 150	°C
Operating Junction Temperature	TJ	-40 to 125	°C
Storage Temperature	TSTG	-65 to 150	°C
Lead Temperature (Soldering, 10 sec)	TLEAD	260	°C
ESD	HBM	>2000	V

Note:
Stresses greater than those listed under Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operation is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

Ordering Information

ACE7054CR XX + H

- Halogen - free
- Pb - free
- WM: TO-263-5

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 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 shoes 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.