



ACE5085RT

Dual-rail Ultra-Low Dropout LDO

Description

The ACE5085RT series are CMOS-based low-dropout, low-power linear regulators, capable of delivering 600mA output current with NMOS pass transistor and a separate bias supply voltage (VBIAS). The ACE5085RT provides very stable, accurate output voltage with low noise, high ripple rejection and low supply current suitable for space constrained, noise sensitive application. The ACE5085RT series consist of an accurate voltage- reference block, an error amplifier, a thermal- shutdown circuit, and a current limit circuit.

Features

- Operating Temperature Range: -40 to 85°C
- Wide Input Voltage Range: 0.8V ~ 5.5V
- Wide VBIAS Voltage Range: 2.7V ~ 5.5V
- Adjustable Output Voltage Range: 0.8 ~ 3.6V
- Fixed Output Voltage Range: 0.8V ~ 2.1V
- High PSRR: 80dB @1KHz
- Very Low VBIAS Input Current: 80μA (Typ.)
- Ultra-Low Dropout: 125mV@500mA (Typ.)
- Built-in Auto-Discharging Circuit
- Built-in Under Voltage Lock-out
- Built-in Overcurrent Protection and Thermal Shutdown Circuit
- Available in DFN1.2*1.2-4 and DFN1.2*1.2-6 packages

Application

- Smartphones, Tablets
- Constant-voltage power supply for cameras,
- DVRs, STB and camcorders
- Portable Equipment



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Absolute Maximum Ratings ^(Note)

Items	Value	Unit
Input Voltage (VIN Pin)	-0.3 to 6.0	V
Input Voltage (VBIAS Pin)	-0.3 to 6.0	V
Input Voltage (EN Pin)	-0.3 to 6.0	V
Input Voltage (ADJ Pin)	-0.3 to 6.0	V
Output Voltage	-0.3 to 6.0	V
Maximum Load Current	600	mA
Maximum Power Consumption	640	mW
Operating Temperature Range	-40 to 85	°C
Storage Temperature Range	-55 to 150	°C
Operating Junction Temperature	-40 to 150	°C

Note:

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 in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Recommended Operating

Symbol	Items	Value	Unit
VIN	IN Input Voltage	VOUT+ VDROPP to 5.5	V
VBIAS	BIAS Input Voltage	2.7 to 5.5 & VBIAS ≥ VOUT + 1.4V	V
IOUT	Output Current	0 to 600	mA
TA	Operating Ambient Temperature	-40 to 85	°C
CIN	Effective Input Ceramic Capacitor Value	0.47 to 10	μF
CBIAS	Effective Input Ceramic Capacitor Value	0.047 to 4.7	μF
COUT	Effective Output Ceramic Capacitor Value	1 to 10	μF
ESR	Input and Output Capacitor Equivalent Series Resistance	5 to 100	mΩ

ESD Ratings

Items	Value	Unit
Human Body Model	2000	V
Machine Model	200	V

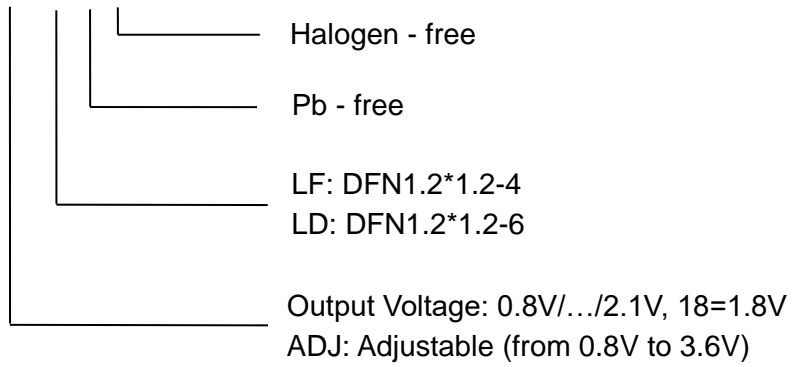


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Ordering Information

ACE5085RT 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 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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