



ACE52029RT

300mA Ultra Low Noise, Low Dropout, High PSRR LDO

Description

ACE52029RT is a LDO with ultra-low noise, high PSRR, low dropout with low quiescent current. It has 300mA output current capability. The device is designed to work with 1 μ F input and output ceramic capacitor. It is very suitable for noise-sensitive, low power consumption requirement and space limited applications. ACE52029RT has OCP function thermal shutdown mode to protect itself during system abnormal situation. ACE52029RT is available in SOT-23-5 and tiny WLCSP-4 (0.67mm*0.67mm) and package. Standard products are Pb-free and Halogen-free.

Features

- Input Voltage Range: 1.7V ~ 5.5V
- Fixed Output Voltage: 0.9V/1.2V/1.5V/1.8V/2.2V/2.5V/2.8V/2.85V/3.0V/3.3V
- Ultra High PSRR: 94dB@1KHz
- Ultra low Noise: 8 μ V_{RMS}@10Hz~100KHz
- Ultra low Dropout: 150mV@300mA, When V_{OUT} = 1.8V
- Low Quiescent Current: 15 μ A
- Over Current Protection
- Output Discharge Function
- Thermal Shutdown
- Integrated Soft-Start Function
- Robust ESD Immunity Capability:
HBM > \pm 2KV
CDM > \pm 1KV

Application

- Noise sensitive device Power
- Smartphone, Wearable device
- Wireless device Power



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Absolute Maximum Ratings ^(Note)

Item	Symbol	Min	Max	Unit
IN to GND	V_{IN}	-0.3	6	V
OUT to GND	V_{OUT}	-0.3	6	V
EN to GND	V_{EN}	-0.3	6	V
Input Current (Continuous)	I_{IN}		1.5	A
Output Current	I_{OUT}		1.5	A
Total Power Dissipation at $T_A = 25^\circ\text{C}$	SOT-23-5	P_D	0.5	W
	WLCSP-4	P_D	0.4	W
Storage Temperature Range	T_{STG}	-65	150	$^\circ\text{C}$
Maximum Junction Temperature	T_J		150	$^\circ\text{C}$
Human Body Model, ANSI/ESDA/JEDEC JS-001-2012	All Pins	ESD	2	KV
Charged Device Model, JESD22-C101			1	KV

Note:

Refer to JEDEC JESD51-7, use a 4-layerboard. Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Recommended Operating

Item	Symbol	Min	Max	Unit
Input Voltage	V_{IN}	1.7	5.5	V
Operating Junction Temperature Range		-40	85	$^\circ\text{C}$

Note:

The Recommended Operating Conditions table defines the conditions for actual device operation. Recommended operating conditions are specified to ensure optimal performance.



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Ordering Information

ACE52029RT 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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