



ACE5DC7U

Dual Channel, 300mA VLDO Linear Regulator

Description

The ACE5DC7U series are dual channel VLDO (very low dropout) linear regulators designed for low power portable applications. The range of output voltage is from 1.2V to 5.0V while operated from 2.5V to 5.5V input. Typical output noise is only $200\mu\text{V}_{\text{RMS}}$ and maximum dropout is just 200mV at the load current of 100mA. The ACE5DC7U series offer high output voltage accuracy, excellent transient response, stability with ultra low ESR ceramic capacitors as small as $1\mu\text{F}$, thermal overload protection and output current limiting. The ACE5DC7U series are available in a low profile SOT-23-6, DFN2*2-6L, DFN3*3-8L package.

Features

- Very Low Dropout: 200mV (Max) at 100mA
- Maximum Input Voltage: 5.5V
- Low Noise: $200\mu\text{V}_{\text{RMS}}$ (10Hz to 100kHz)
- Fast Transient Response
- Dual LDO Outputs (300mA/300mA)
- Output Current Limit
- Stable with $1\mu\text{F}$ Output Capacitor
- Thermal Overload Protection

Applications

- Cellular Phones
- PDAs and Notebook Computers
- Bluetooth/802.11 Cards
- Portable Instruments and Battery-Powered Systems



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Absolute Maximum Ratings ^(Note 1)

Symbol	Parameter	Value	Unit	
V_{IN}	Supply Voltage on V_{IN} Pin	-0.3 to 6.5	V	
V_{OUT}	Voltage on V_{OUT} Pin	-0.3 to 7.5	V	
T_J	Operating Junction Temperature ^(Note 2, 3)	-40 to 125	°C	
T_{STG}	Storage Temperature Range	-65 to 150	°C	
T_L	Lead Temperature for Soldering 10 Seconds	300	°C	
	ESD Susceptibility HBM	2000	V	
P_D	Continuous Power Dissipation at $T_A=25^\circ\text{C}$	SOT-23-6	1.13	W
		DFN2*2-6L	1.48	
		DFN3*3-8L	3.04	

Note:

1. Absolute Maximum Ratings are those values beyond which the life of a device may be impaired.
2. The device is guaranteed to meet performance specifications from 0°C to 70°C. Specifications over the -40°C to 125°C operating junction temperature range are guaranteed by design, characterization and correlation with statistical process controls.
3. This IC includes over temperature protection circuit inside that is intended to protect the device during momentary overload conditions. Over temperature protection trip point is around 160°C. Continuous operation above the specified maximum operating junction temperature may impair device reliability.

Recommended Operating Conditions ^(Note 1)

Parameter	Value	Unit
Supply Input Voltage	2.5 to 5.5	V
Enable Input Voltage	0 to 5.5	V
Junction Temperature Range	-40 to 125	°C
Ambient Temperature Range	-40 to 85	°C

Note:

1. The device is not guaranteed to function outside its operating conditions.

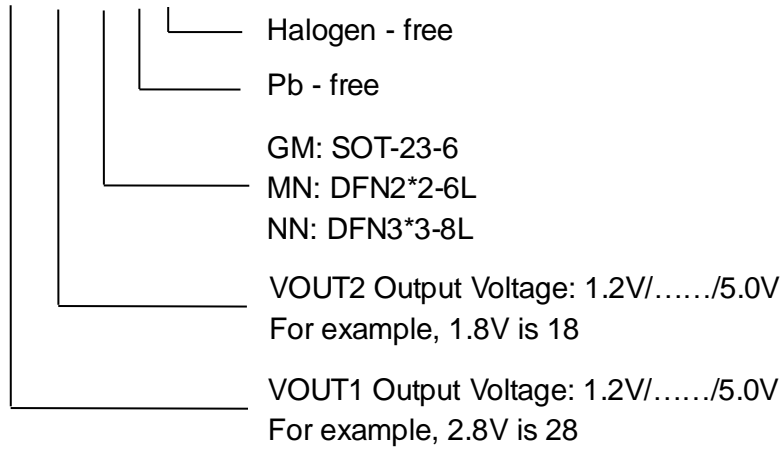


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Ordering Information

ACE5DC7U XX 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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