



# ACE5239T

## Ultra-low dropout, High current, High PSRR CMOS LDO

### Description

The ACE5239T series are ultra-low dropout, fast transient response, high current delivery, high PSRR CMOS LDO. The quiescent current consumed by the ACE5239T is typically 75 $\mu$ A over the entire input voltage range, making it attractive for consumer, networking applications that demand high output current and low quiescent consumption. The ACE5239T series are available in wide output voltage range from 0.8V to 3.6V (fixed voltage version) or adjustable voltage from 0.8V to 5.0V. The ACE5239T series offer over temperature protection (OTP) and over current protection (OCP), to maintain the stability operation at abnormal conditions. ACE5239T is available in DFN2\*2-6L, SOT-23-5 and SOT-89-5 packages. Standard products are Pb-free and Halogen-free.

### Features

- Input voltage: 1.7V~6.0V
- Fixed output range: 0.8~3.6V (Customized by every 0.1V step)
- Adjustable output range: 0.8~5.0V
- Output current: up to 1A
- Ultra-low dropout voltage: 160mV @  $V_{OUT} = 1.8V$ ,  $I_{OUT} = 500mA$
- Quiescent current: 75 $\mu$ A Typ.
- PSRR: 75dB @1KHz,  $I_{OUT} = 30mA$

### Applications

- Portables, battery powered equipment
- Computer, Graphic card
- Network communication equipment
- Others portable electronics devices

### Absolute Maximum Ratings

Symbol	Items	Value	Unit	
$V_{IN}$	Input Voltage	-0.3~7	V	
$V_{EN}$	EN voltage range	-0.3~ $V_{IN}$	V	
$V_{OUT}$	Output Voltage	-0.3~ $V_{IN}$	V	
$P_{DMAX}$	Power Dissipation	DFN2*2-6L	1	W
		SOT-23-5	0.43	
		SOT-89-5	1.2	
$R_{\theta JA}$	Thermal resistance	DFN2*2-6L	100	$^{\circ}C/W$
		SOT-23-5	230	
		SOT-89-5	85	



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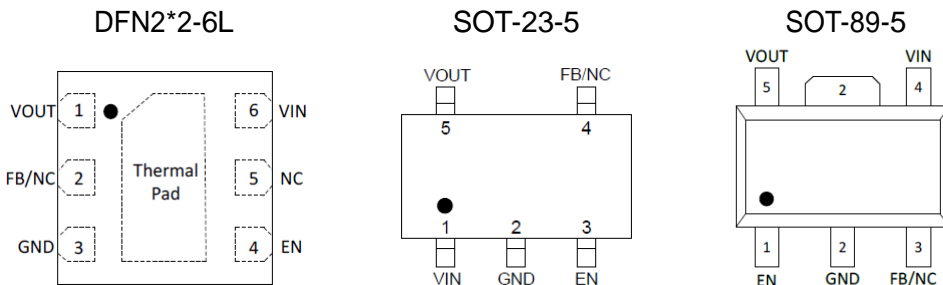
Symbol	Items	Value	Unit
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{\text{STG}}$	Storage Temperature	-55 to 150	$^{\circ}\text{C}$
ESD Ratings	HBM	$\pm 5$	KV
	Latch up	$\pm 500$	mA

Note: Exceed these limits could damage the device. Exposure to absolute maximum rating conditions may affect device reliability.

### Recommended Operating Range

Symbol	Items	Value	Unit
$V_{\text{IN}}$	VIN Supply Voltage	1.7 to 6.0	V
$C_{\text{IN}}$	Input capacitor	4.7	$\mu\text{F}$
$C_{\text{O}}$	Output capacitor	4.7	$\mu\text{F}$
R2	FB pin bottom resistor, connect FB to GND	100	K $\Omega$
$T_{\text{OPT}}$	Operating Temperature	0 to 85	$^{\circ}\text{C}$

### Packaging Type



### Pin Description

Pin No			Symbol	I/O	Description
DFN2*2-6L	SOT-23-5	SOT-89-5			
1	5	5	VOUT	O	Regulated output voltage
2	4	3	FB/NC	I / —	Feedback voltage (adjustable voltage version only) or no connection (fixed voltage version only)
3	2	2	GND	Ground	Ground
4	3	1	EN	I	Enable function, Active high. Floating is internally pulled low.
5			NC	—	No connection
6	1	4	VIN	Power	Input supply voltage

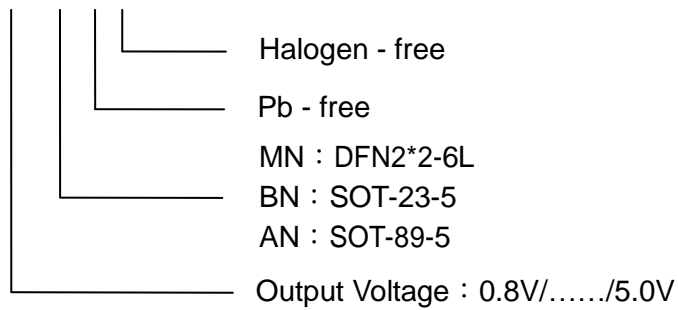


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## Ordering information

ACE5239T 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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