



VSP MIKRON

LP2950-XX

FEATURES

- High accuracy output voltage
- Guaranteed 100mA output
- Very low quiescent current
- Low dropout voltage
- Extremely tight load and line regulation
- Very low temperature coefficient
- Needs only 1 μ F for stability

APPLICATIONS

- Battery powered systems
- Cordless telephones
- Radio control systems
- Portable/Palm top/Notebook computers
- Portable consumer equipment
- Portable Instrumentation
- Avionics
- Automotive Electronics
- SMPS Post-Regulator
- Voltage Reference

PRODUCT DESCRIPTION

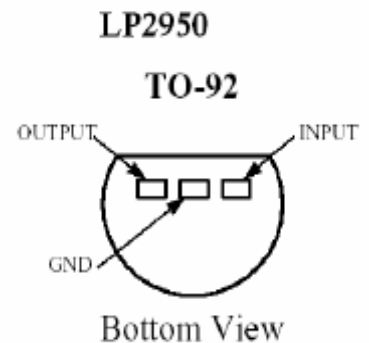
The LP2950 is a low power voltage regulator. This device excellent choice for use in battery powered application such as cordless telephone, radio control systems, and portable computers.

The LP2950 features very low quiescent current (75 μ A Typ.) and very low drop output voltage (Typ. 40mV at light load and 380mV at 100mA). This includes a tight initial tolerance of 0.5% typ., extremely good load and line regulation of 0.05% typ., and very low output temperature coefficient, making the LP2950 useful as a low-power voltage reference.

The LP2950 -XX is offered in 3-pin TO-92 package compatible with other fixed regulator.

Absolute Maximum Ratings

Power Dissipation	Internally Limited
Lead Temperature (Soldering, 5 seconds)	260°C
Storage Temperature Range	-65°C to +150°C
Operating Junction Temperature Range	-40°C to +125°C
Input Supply Voltage	-0.3 to +30V
Operating Input Supply Voltage	+2.3 to +30V



Device Selection Guide

V _{out} ,V	Device
2.5	LP2950-2.5
2.85	LP2950-2.85
3.0	LP2950-3.0
3.3	LP2950-3.3
5.0	LP2950-5.0

100mA Low Dropout Positive Voltage Regulators



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ELECTRICAL CHARACTERISTICS

Parameter	Conditions (Note 1)	Min	Typ	Max	Units
Output Voltage					V
	$-25^{\circ}\text{C} \leq T_j \leq 85^{\circ}\text{C}$	0.985 Vnom	Vnom	1.015 Vnom	
		0.98 Vnom	Vnom	1.02 Vnom	
	$100\mu\text{A} \leq I_L \leq 100\text{mA}$	0.976 Vnom	Vnom	1.024 Vnom	
Output Voltage Temperature Coefficient	(Note 3)		50	150	ppm/ $^{\circ}\text{C}$
Line Regulation (Note 4)	$V_0 + 1\text{V} \leq V_{in} \leq 30\text{V}$		0.04	0.4	%
Load Regulation (Note 4)	$100\mu\text{A} \leq I_L \leq 100\text{mA}$		0.1	0.3	%
Dropout Voltage (Note 5)	$I_L = 100\mu\text{A}$ $I_L = 100\text{mA}$		50	80	mV
			380	450	
Ground Current	$I_L = 100\mu\text{A}$ $I_L = 100\text{mA}$		75	120	μA
			5	12	mA
Dropout Ground Current	$V_{in} = V_0 - 0.5\text{V}$, $I_L = 100\mu\text{A}$		110	170	μA
Current Limit	$V_{out} = 0$		160	200	mA
Thermal Regulation	$T_j = 25^{\circ}\text{C}$		0.05	0.2	%/W
Output Noise, 10Hz to 100KHz	$C_L = 1\mu\text{F}$ $C_L = 200\mu\text{F}$ ($T_j = 25^{\circ}\text{C}$)		430		$\mu\text{V rms}$
			160		
Feedback Pin Bias Current			20	40	nA

Note 1: Unless otherwise specified all limits guaranteed for $V_{in} = V_0 + 1\text{V}$, $I_L = 100\mu\text{A}$, $C_L = 3\mu\text{F}$, Full Operating Temperature.

Note 3: Output voltage temperature coefficients defined as the worst case voltage change divided by the total temperature range.

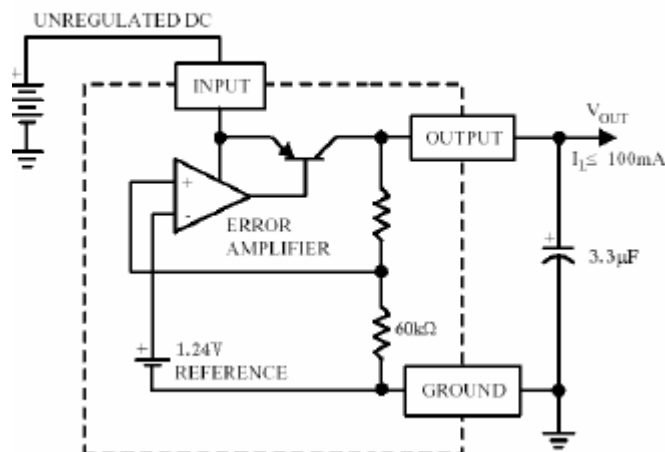
Note 4: Regulations is measured at constant junction temperature, using pulse testing with a low duty cycle. Changes in output voltage due to heating effects are covered under the specification for thermal regulation.

Note 5: Dropout voltage is defined as the input to output differential at which the output voltage drops 100mV below its nominal value measured at 1V differential.

Note 6: Adjustable version programmed to 5V.

Block Diagram and Typical Applications

LP2950



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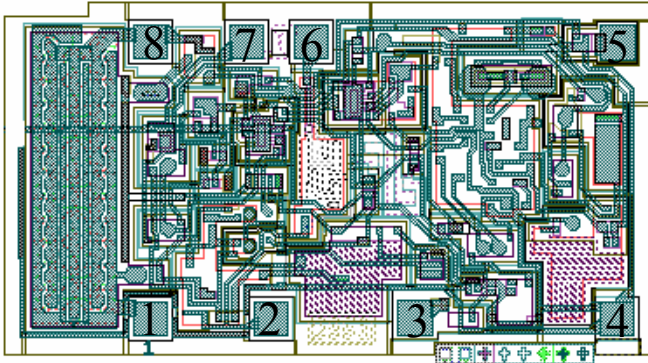
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Pad Location



Wafer Thickness: 460±30µm (or 350±30µm, 280±30µm)
Top metal: AlSi
Backside metal: - (or Ti-Ni (V)-Ag)
Wafer size: 100 mm

Chip size: 2.05x1.15 mm

Pad Location Coordinates

Pad №	Pad Name	X(µm)	Y(µm)
1	OUTPUT	440	110
2	OUTPUT	810	110
4	GROUND	1865	110
8	INPUT	440	950