

**DESCRIPTION**

The LP2950 is monolithic integrated voltage regulators with low dropout voltage, and low quiescent current. It includes many features that suitable for different applications.

The LP2950 is available in TO-252 package.

ORDERING INFORMATION

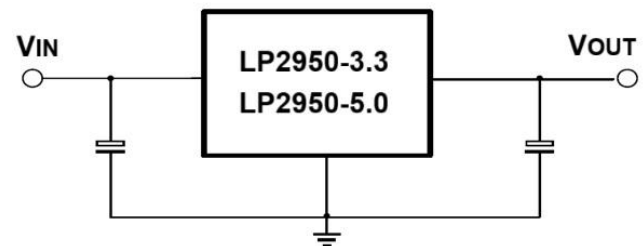
Package Type		Part Number	
TO-252 SPQ: 2,500pcs/Reel	D	LP2950DR-33	
		LP2950DR-50	
Note	Output Voltage: 33= 3.3V, 50=5.0V R: Tape & Reel		
AiT provides all RoHS products			

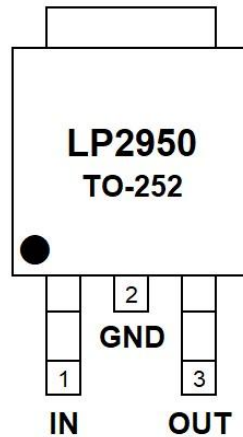
FEATURES

- Fixed output versions 3.3V and 5.0V are available
- High accuracy output voltage
- Extremely low quiescent current and dropout voltage
- Extremely tight load and line regulation
- Current and thermal limiting
- Very low temperature coefficient
- Output voltage programmable for LP2951

APPLICATION

- Grid Infrastructure
- Factory Automation
- Motor Drives
- Building Automation

TYPICAL APPLICATION

**PIN DESCRIPTION**

Pin #	Symbol	Function
TO-252		
1	IN	Input
2	GND	Ground
3	OUT	Output

ABSOLUTE MAXIMUM RATINGS

V_{CC} , Supply Voltage	-0.3V ~ +30V
V_{FB} , Feedback Voltage	-1.5V ~ +30V
V_{SHDN} , Shutdown Voltage	-0.3V ~ +30V
P_D , Power Dissipated	Internally Limited
T_J , Operation Junction Temperature	-40°C ~ +125°C
T_{STG} , Storage Temperature	-65°C ~ +150°C
θ_{JA} , Junction-to-Ambient	92°C/W
θ_{JC} , Junction-to-Case	6°C/W

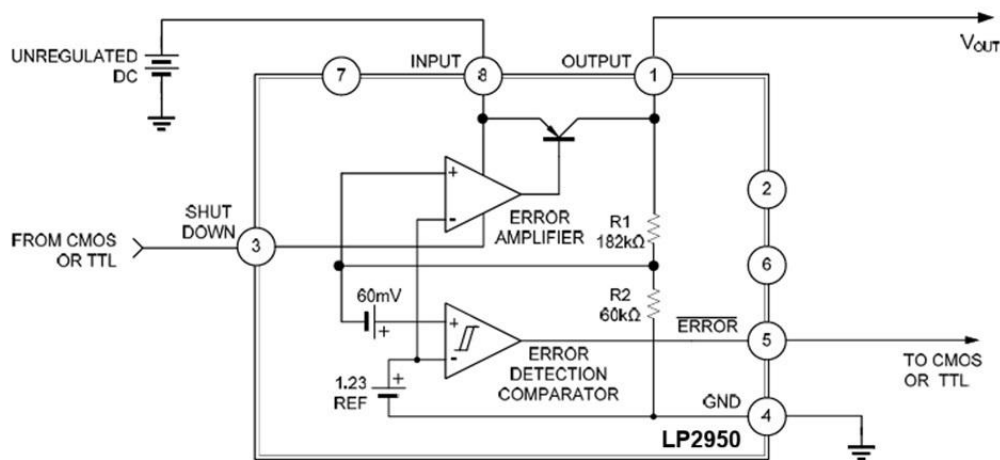
Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**ELECTRICAL CHARACTERISTICS**

$T_J=25^{\circ}\text{C}$, $V_{IN}=6\text{V}$, $I_L=100\mu\text{A}$, $C_L=1\mu\text{F}$, unless otherwise noted.

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Output Voltage	V_{OUT}	$T_J=25^{\circ}\text{C}$	$V_{OUT}\times 0.98$	V_{OUT}	$V_{OUT}\times 1.02$	V
		$100\mu\text{A}\leq I_L\leq 100\text{mA}$, $T_J\leq T_{J(\text{max})}$	$V_{OUT}\times 0.98$	V_{OUT}	$V_{OUT}\times 1.02$	
Output Voltage Temperature Coefficient	$T_C V_O$	-	20	-	100	ppm/ $^{\circ}\text{C}$
Line Regulation	ΔV_{OUT}	$6\text{V}\leq V_{IN}\leq 30\text{V}$	0.03	0.10	0.20	%
Load Regulation	ΔV_{OUT}	$100\mu\text{A}\leq I_L\leq 100\text{mA}$	0.04	0.10	0.20	%
Dropout Voltage	V_D	$I_L=100\mu\text{A}$	50	80	150	mV
		$I_L=100\text{mA}^*$	380	450	600	
Ground Current	I_G	$I_L=100\mu\text{A}$	-	120	140	μA
		$I_L=100\text{mA}$	-	12	14	mA
Dropout Ground Current	-	$V_{IN}=(V_{ONOM}-0.5)\text{V}$, $I_L=100\mu\text{A}$	-	170	200	μA
Current Limit	I_{LIMIT}	$V_{OUT}=0$	130	190	250	mA

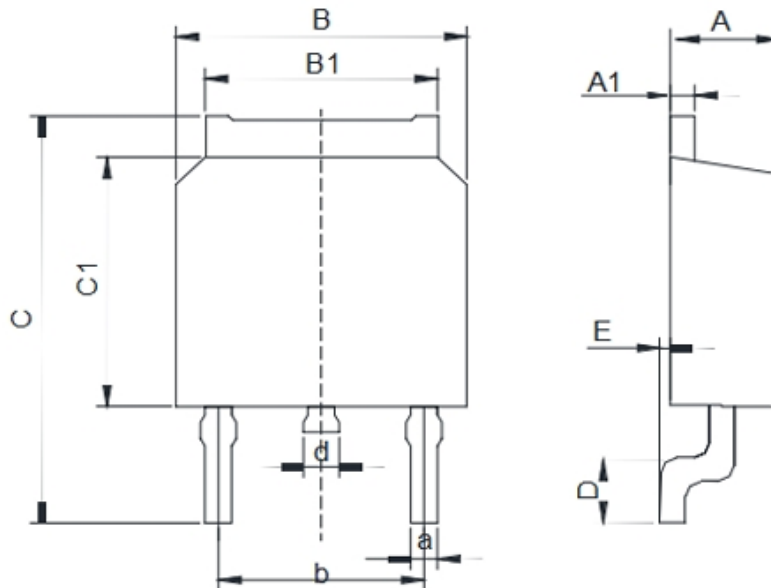
*Dropout Voltage is defined as the input to output differential at which the output voltage drops 100mV below its nominal value measured at 1V differential

BLOCK DIAGRAM



PACKAGE INFORMATION

Dimension in TO-252 (Unit: mm)



Symbol	Min.	Max.
A	2.100	2.500
A1	0.450	0.700
a	0.500	0.800
B	6.300	6.750
B1	5.100	5.500
b	4.450	4.750
C	9.200	10.600
C1	5.300	6.300
D	0.900	1.750
d	0.700	1.200
E	0.000	0.230



IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc. 's integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or server property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.