Elektronische Bauelemente

SLP2950

100mA Low-Dropout Voltage Regulator

RoHS Compliant Product

Description

The SLP2950 is a monolithic integrated voltage regulator with low dropout voltage, and low quiescent current. It includes many features that suitable for different applications.

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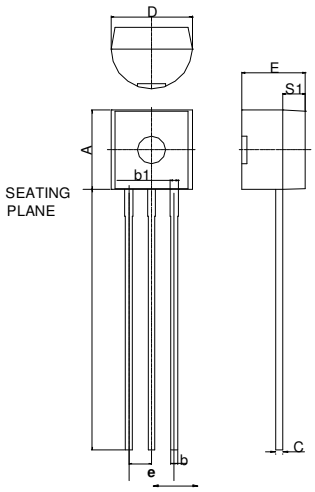


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.45	4.7	D	4.44	4.7
S_1	1.02	-	E	3.30	3.81
b	0.36	0.51	L	12.70	-
b_1	0.36	0.76	e1	1.150	1.390
C	0.36	0.51	e	2.42	2.66

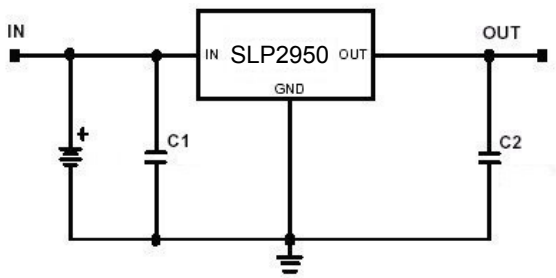
Features

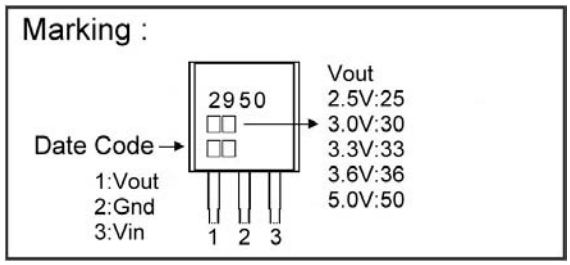
* Current And Thermal Limiting
* Extremely Tight Load And Line Regulation
* Very Low Temperature Coefficient
* High Accuracy 2.5,3.0,3.3,3.6 or 5.0V Fixed Output
* Extremely Low Quiescent Current And Dropout Voltage

Applications

* Cellular Phones
* Battery Powered Equipment

Application Circuit





Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Input Voltage	V_{CC}	-0.3~+30	V
Output Current	I_{OUT}	100	mA
Output Voltage	V_{OUT}	2.5~5.0	V
Storage Temperature	T_{STG}	-65~+150	°C
Max. Juction Temperature	Tjmax	150	°C
Operating Juction Temperature	Tj	-40~+150	°C

Electrical Characteristics (T_J=25℃, V_{IN}=6V, I_O=100μA, and Co=1μF, unless otherwise specified)

Parameter	Symbol	Condition		Min	TYP	Max	Unit
Output Voltage	V_{OUT}	SLP2950-25	100μA≦I_O≦100mA T_J≦T_{JMAX}	2.45	2.5	2.55	V
		SLP2950-30		2.94	3.0	3.06	
		SLP2950-33		3.23	3.3	3.36	
		SLP2950-36		3.53	3.6	3.67	
		SLP2950-50		4.90	5.0	5.10	
Line Regulation	REG_{LINE}	V_O+1≦V_{IN}≦30V		-	0.04	0.4	%
Load Regulation	REG_{LOAD}	100μA≦I_O≦100mA		-	0.1	0.3	%
Current Limit	I_{LIM}	V_{OUT}=0		-	160	200	mA
Output Voltage Temperature Coefficient	TC			-	20		ppm/℃
Dropout Voltage	$V_{DROPOUT}$	I_O=100μA		-	50	80	mV
		I_O=100mA(Note1)		-	380	450	
Ground Current	I_Q	I_O=100μA		-	75	120	μA
		I_O=100mA		-	8	12	mA
Dropout Ground Current		V_{IN}=V_O-0.5V, I_O=100μA		-	110	170	μA
Output Voltage Noise f=10Hz~100kHz	eN	Co=1μF		-	430	-	μV
		Co=200μF		-	160	-	

Note 1: 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.

Characteristics Curve

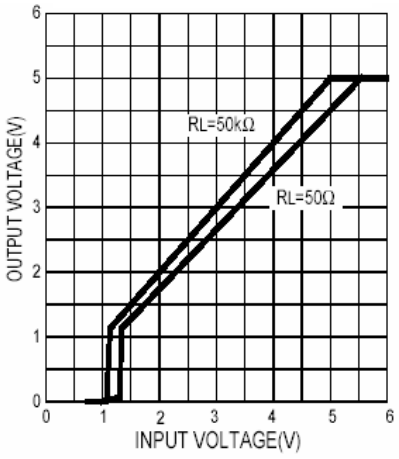


Fig 1. Dropout Characteristics

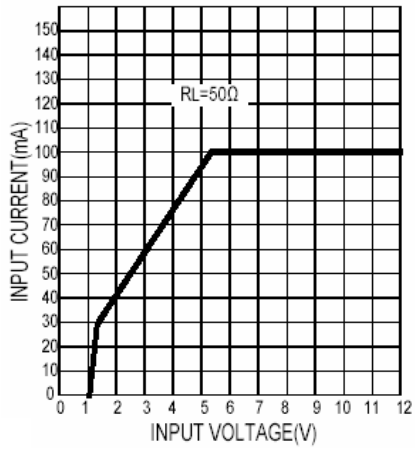


Fig 2. Input Current

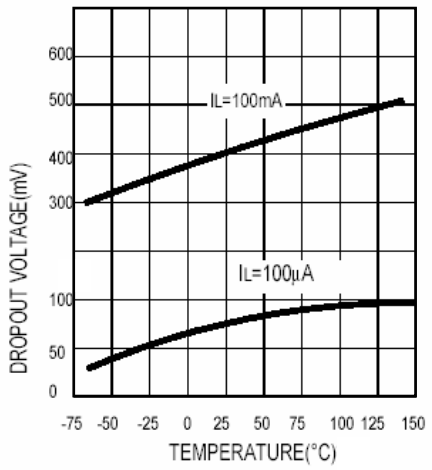


Fig 3. Dropout Voltage

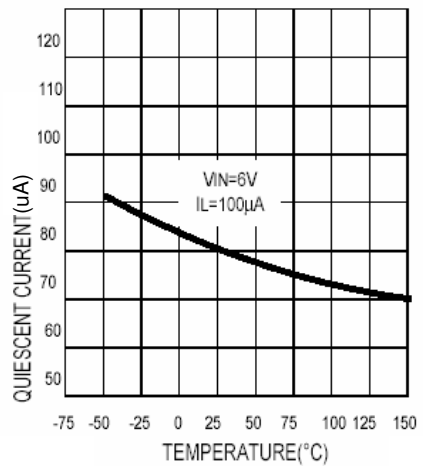


Fig 4. Ground Pin Current

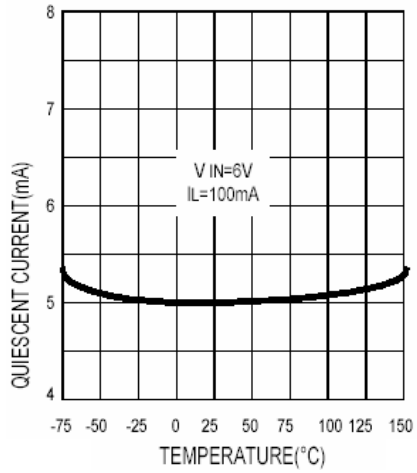


Fig 5. Ground Pin Current

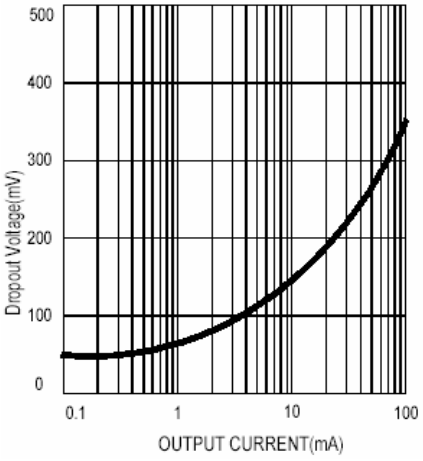


Fig 6. Dropout Voltage

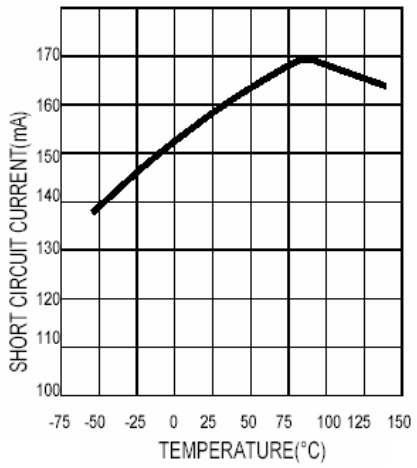


Fig 7. Short Circuit Current