NEW ENGLAND SEMICONDUCTOR

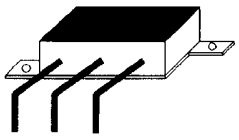
NSG2561

LOW DROPOUT VOLTAGE REGULATORS

3 TERMINAL POSITIVE ADJUSTABLE

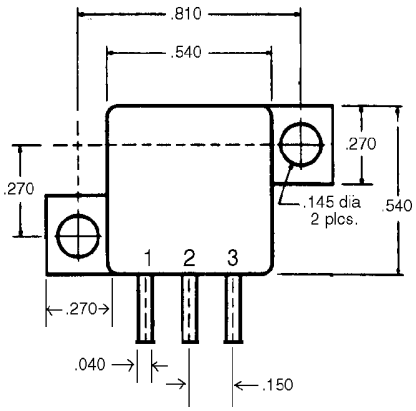
- 1V Dropout, 1.5V @ Max Current
- 0.01% Load Regulation
- 0.015% Line Regulation
- 1% Reference Voltage
- Hermetic TO-254Z Pak
- Output Current 1.5A

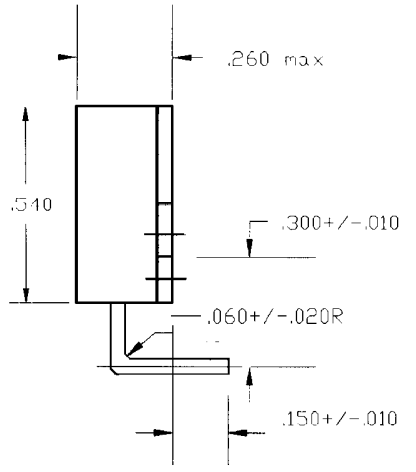
	Pinout
Pin 1	Adjust
Pin 2	Vout
Pin 3	Vin



TO-254Z

MECHANICAL OUTLINE

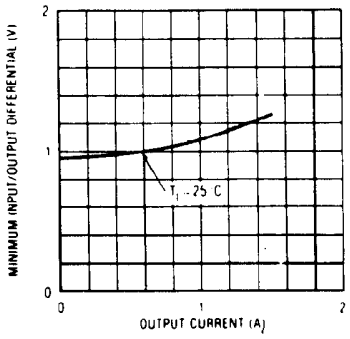




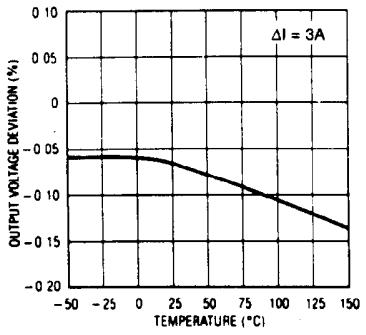
ABSOLUTE MAXIMUM RATINGS

Power Dissipation	15 W
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature	- 65°C to + 150°C
Output Current--	
NSG2561	1.5 A
Input Voltage	35 V

Dropout Voltage



Load Regulation



NEW ENGLAND SEMICONDUCTOR
6 Lake Street Lawrence, MA 01841
1-800-446-1158 / (978) 794-1666 / FAX: (978) 689-0803

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NSG2561

ELECTRICAL CHARACTERISTICS ($T_C = 25^0C$ unless otherwise noted)

Parameter	Conditions	NSG2561 Min	Typ	Max	Units
Line Regulation	I_L = 10 mA, 1.5V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 15V		0.015	0.2	%
	$T_j = 25^0C$		0.035	0.2	%
	15V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 35V(1&2)		0.05	0.5	%
Load Regulation	$\lvert V_{IN} - V_{OUT} \rvert$ = 3 V				
	10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$				
	$T_j = 25^0C$		0.1	0.3	%
	(1,2,3)		0.2	0.4	%
Thermal Regulation NSG2561	$T_A = 25^0C$, 30 ms Pulse		0.010	0.05	%/W
Adjustment Pin Current Change	10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$				
	1.5 V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 25V		0.2	5	µA
Adjustment Pin Current	$T_j = 25^0C$		55		µA
Reference Voltage	I_{OUT} = 10 mA, $T_j = 25^0C$				
	$\lvert V_{IN} - V_{OUT} \rvert$ = 3 V	1.238	1.250	1.262	V
	10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$				
	1.5 V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 25 V(3)	1.225	1.250	1.270	V
Temperature Stability	$-55^0C \le T_j \le +150^0C$		0.5		%
Minimum Load Current	$\lvert V_{IN} - V_{OUT} \rvert$ = 25V		5	10	mA
Current Limit NSG2561	$\lvert V_{IN} - V_{OUT} \rvert$ = 5V		1.8		A
	$\lvert V_{IN} - V_{OUT} \rvert$ = 25V		0.2		A
RMS Output Noise (% of V_{OUT})	$T_A = 25^0C$, 10 Hz ≤ f ≤ 10 kHz		0.003		%
Ripple Rejection Ratio	f = 120 Hz				
	C_{ADJ} = 25 µF Tantalum				
	I_{OUT} - $I_{FULL\ LOAD}$ $\lvert V_{IN} - V_{OUT} \rvert$ = 3V	60	75		dB
Long-Term Stability	$T_A = 125^0C$, 1000 Hours		0.3	1	%
Dropout Voltage	ΔV_{REF} = 1%, $I_{OUT} = I_{FULL\ LOAD}$		1.3	1.5	V

1) Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
2) Line and load regulation are guaranteed up to the maximum power dissipation.
3) $I_{FULL\ LOAD}$ curve is defined as the minimum value of current limit as a function of input to output voltage. Note that power dissipation is only achievable over a limited range of input to output voltage.

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