NEW ENGLAND SEMICONDUCTOR

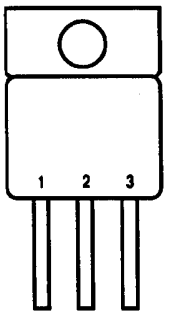
NESY1085

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 3.0A

TO257AA PACKAGE



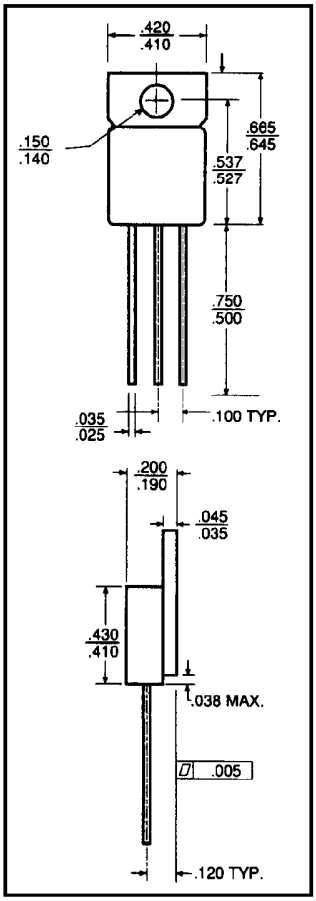
Pinout

Pin 1: Collector
Pin 2: Emitter
Pin 3: Base

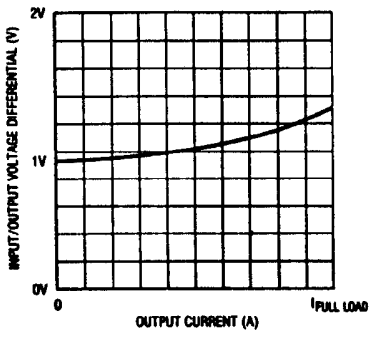
	Pinout
Pin 1	Adjust
Pin 2	Vout
Pin 3	Vin

ABSOLUTE MAXIMUM RATINGS

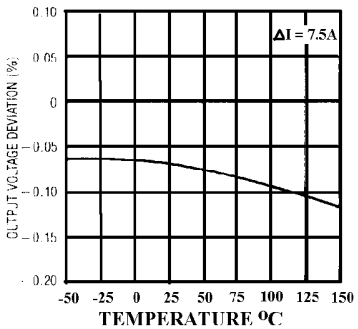
Power Dissipation	Internally limited
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature	- 65°C to + 150°C
Output Current--	
NESY1085	3.0 A
Input Voltage	35 V



DROPOUT VOLTAGE vs OUTPUT CURRENT



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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NESY1085

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

Parameter	Conditions	NESY1085 Min	NESY1085 Typ	NESY1085 Max	Units
Line Regulation	I_L = 10 mA, 1.5V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 15V $T_j = 25^0C$ 15V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 35V		0.015 0.035 0.05	0.2 0.2 0.5	% % %
Load Regulation	$\lvert V_{IN} - V_{OUT} \rvert$ = 3 V 10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$ $T_j = 25^0C$ (1,2,3)		 0.1 0.2	 0.3 0.4	 % %
Thermal Regulation NSG2591	$T_A = 25^0C$, 30 ms Pulse		0.004	0.02	%/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 10 mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$ 1.5 V ≤ $\lvert V_{IN} - V_{OUT} \rvert$ ≤ 25 V(3)	 1.238 1.225	 1.250 1.250	 1.262 1.270	 V 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 NSG2591	$\lvert V_{IN} - V_{OUT} \rvert$ = 5V $\lvert V_{IN} - V_{OUT} \rvert$ = 25V	3.2 0.2	4.0 0.5		A 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, C_{OUT} = 25µF 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 (30w for NSG2591). Power dissipation is determined by the input/output differential and the output current. Guaranteed maximum dissipation will not be available over the full input/output voltage range.

3). $I_{FULL\ LOAD}$ is defined in the current limit curves. $I_{FULL\ LOAD}$ curve is defined as the minimum value of current limit as a function of input to output voltage. Note that the 30w power dissipation is only achievable over a limited range of input to output voltage.

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