

TECHNICAL DATA
DATA SHEET 4339, REV. -

LINEAR VOLTAGE REGULATOR THREE TERMINAL-POSITIVE-ADJUSTABLE 3.0 Amp, Low Dropout Voltage TO-257 Hermetic Package

Features:

- **Three-Terminal Adjustable**
- **Operates Down to 1V Dropout**
- **Guaranteed Dropout Voltage at Multiple Current Levels**
- **On-Chip Thermal Limiting**
- **Line Regulation: 0.035%**
- **Load Regulation: 0.20%**
- **Fixed Versions Available**
- **Electrically Equivalent to LT®1085**

Applications:

- **High Efficiency Linear Regulators**
- **Post Regulator for Switching Supplies**
- **Constant Current Regulators**

Description: This positive adjustable regulator is designed to provide 3A with high efficiency using simple 3-terminal configurations. All internal circuitry is designed to operate down to 1V input-to-output differential and the dropout voltage is fully specified as a function of load current. Dropout is guaranteed at a maximum of 1.5V at maximum output current, decreasing at lower load currents. Available in fixed voltages.

Current limit is trimmed to ensure specified output current and controlled short-circuit current. On-chip thermal limiting provides protection against any combination of overload that would create excessive junction temperatures.

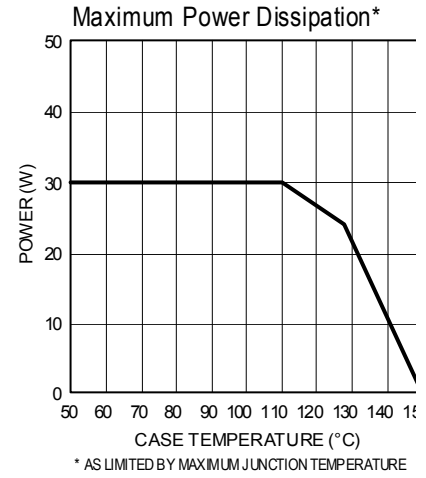
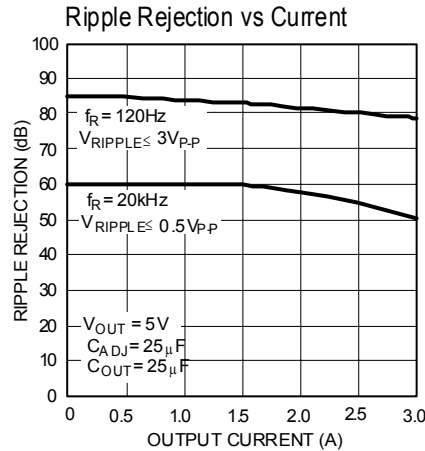
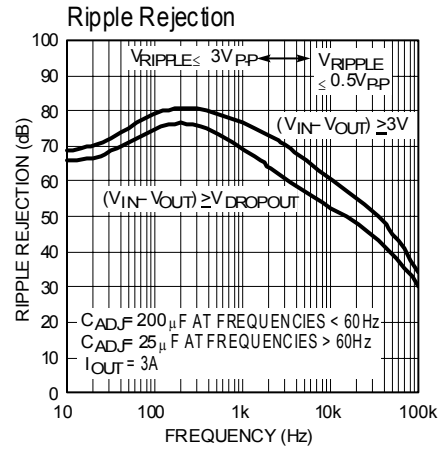
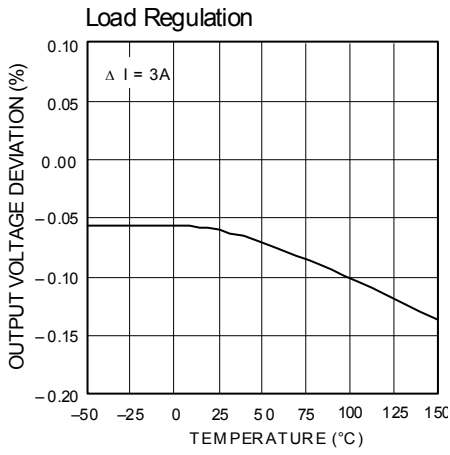
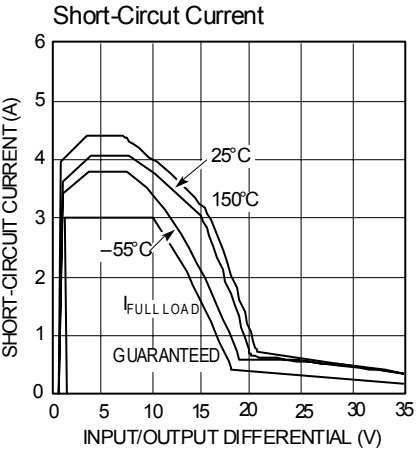
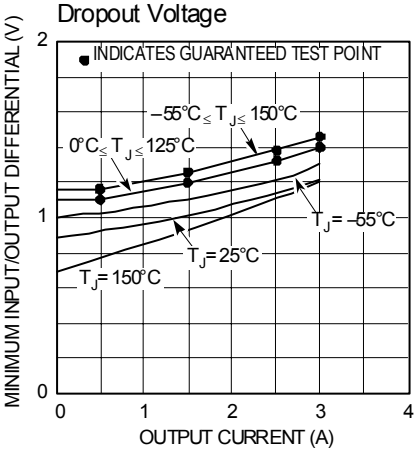
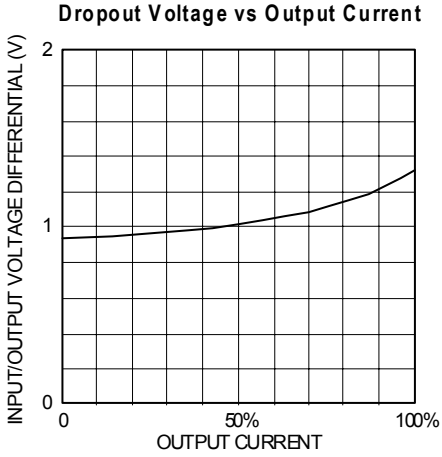
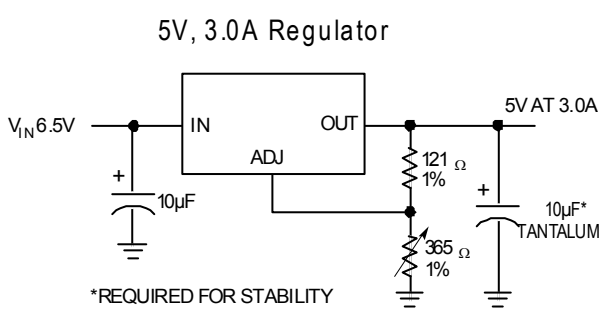
ELECTRICAL CHARACTERISTICS -55°C ≤ TA ≤ 125°C (UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	Test Conditions	Min	TYP	Max.	Units
Input Voltage	Vin			-	35	V
Reference Voltage	Vref	1.5V ≤ (Vin-Vout) ≤ 25V, 10mA ≤ Iout ≤ 2A	1.220	1.250	1.270	V
Line Regulation Note(1,2)	ΔVout/ΔVin	1.5V < (Vin-Vout) < 15V, Iout=10mA TA = 25°C		0.035	0.20	%
Line Regulation Note(1,2)	ΔVout/ΔVin	(Vin-Vout) = 15V to 35V Iout = 10 mA		0.050	0.50	%
Load Regulation Note(1,2,3)	ΔVout/ΔIout	(Vin-Vout) = 3V 10mA < Iout < 2A		0.60	1.00	%
Dropout Voltage	VDO	ΔVref = 1%, Iout = 3A		1.30	1.50	V
Current Limit	ILIM	(Vin-Vout)=5V	3.20	4.00	-	A
Current Limit	ILIM	(Vin-Vout)= 25V	0.20	0.50	-	A
Adjust Pin	IAdj	Typical value is at Tj = 25°C		55	120	μA
Adjust Pin Current Change	ΔIAdj	1.5V < (Vin-Vout) < 25V, 10mA < Iout < IFull load		0.2	5	μA
Minimum Load Current	IMIN	(Vin-Vout)= 25V		5	10	mA
Quiescent Current	Iq	Vin= 5.0V		8	13	mA
Ripple Rejection	ΔVin/ΔVout	f=120Hz, Cadj=25μF, Cout=25μF(Tant.), (Vin-Vout)=3V, Iout=3.0A	60	72	-	dB
Thermal Regulation		TA=25°C, 30ms Pulse		0.004	0.02	%/W
Temperature Stability	ΔVout/ΔT	-55°C, <Tj < +125°C		0.50		%
Long Term Stability	ΔVout/ΔT	TA=+125°C, t=1000hrs		0.30	1.0	%
RMS Output Noise	(% of Vout)	TA=25°C, 10Hz < f < 10kHz		0.003	-	%
Thermal Resistance (J-C)	TjC	Surface mount LCC-3P package		-	4	°C/W

Notes:

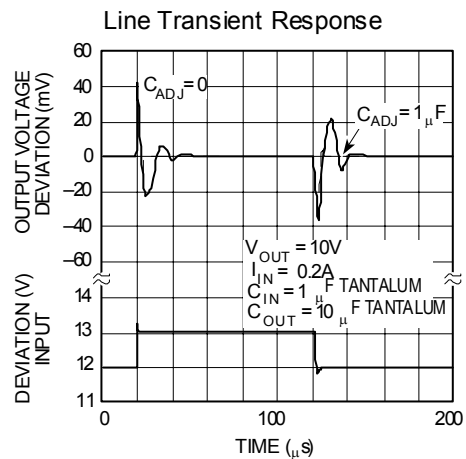
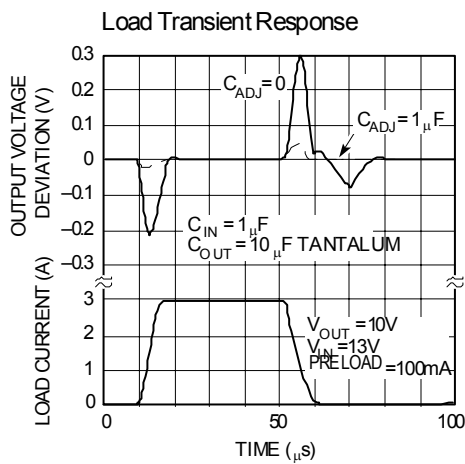
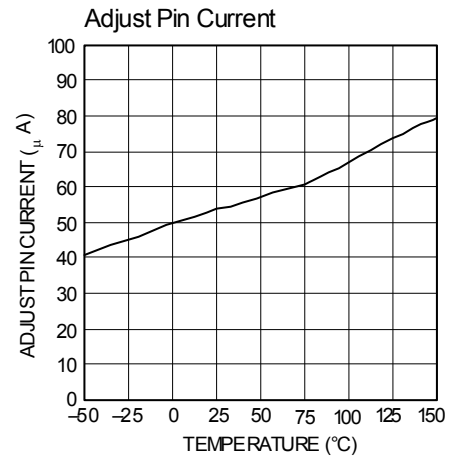
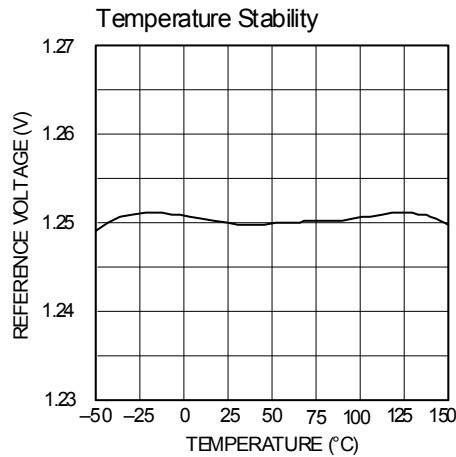
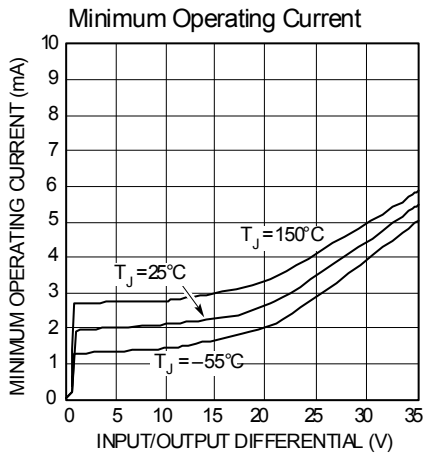
- 1) See thermal regulation specification for changes in output voltage due to heating effects. Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
- 2) Line and load regulation is guaranteed up to the maximum power dissipation in the package. Input/output differential and the output current determine power dissipation. Guaranteed maximum output power will not be available over the full / input/output voltage range.
- 3) I_{Full} Load is defined as the maximum value of output load current as a function of the input-to-output voltage. I_{Full} Load is equal to 3.0 Amps.

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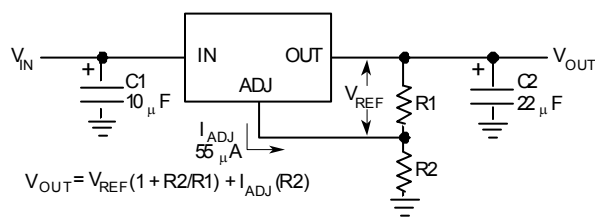


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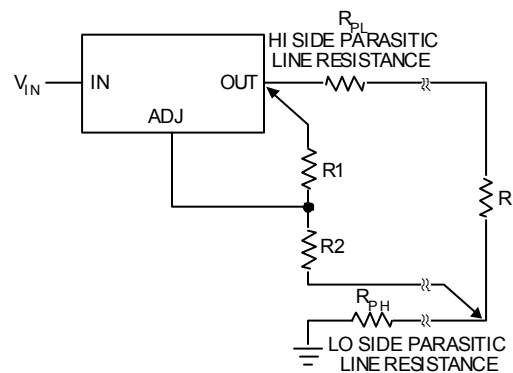
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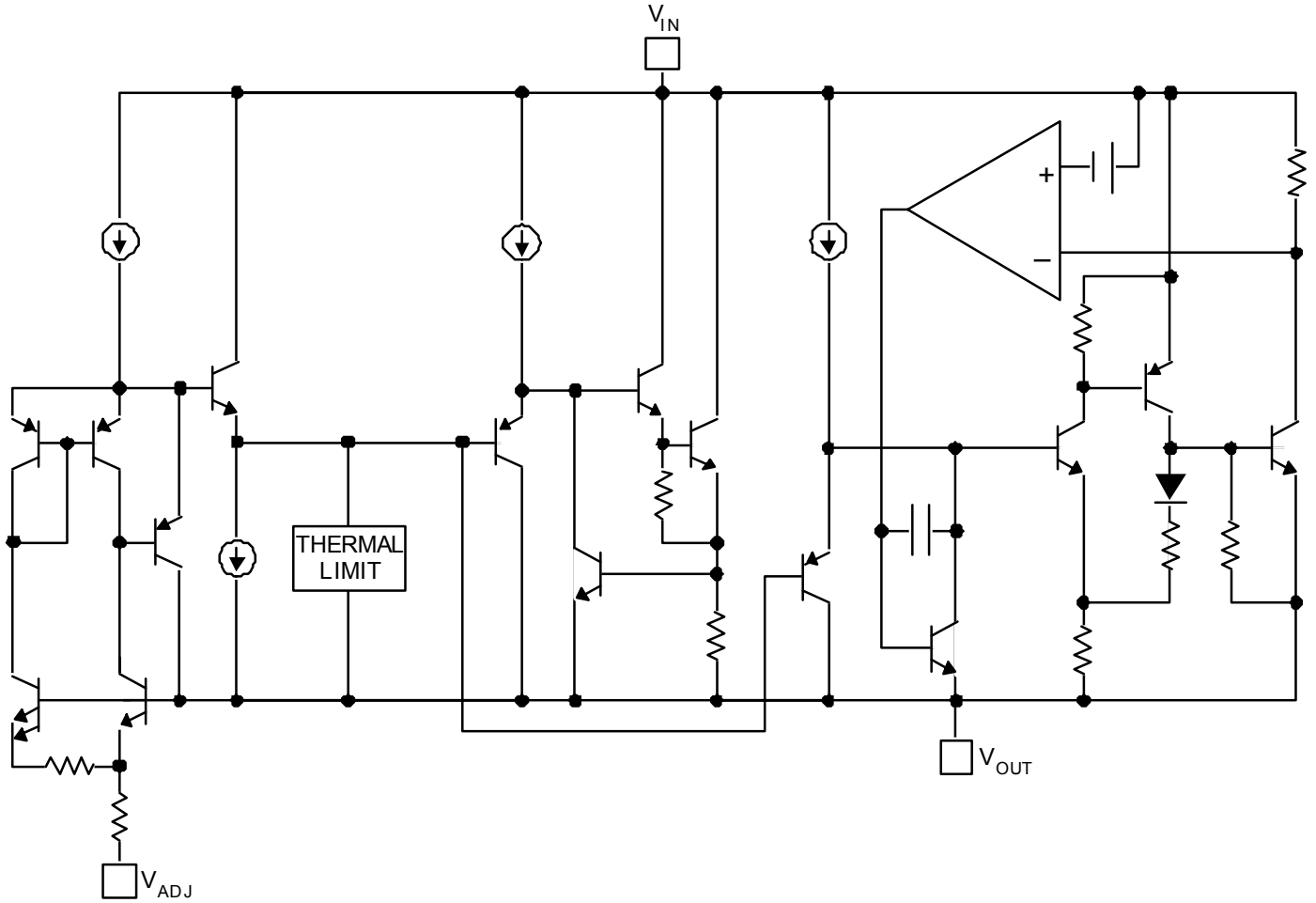
Adjustable Regulator Configuration or Changing Voltage of Fixed Regulator



Optional Configuration to Reduce Low Side Parasitic Resistance Effects



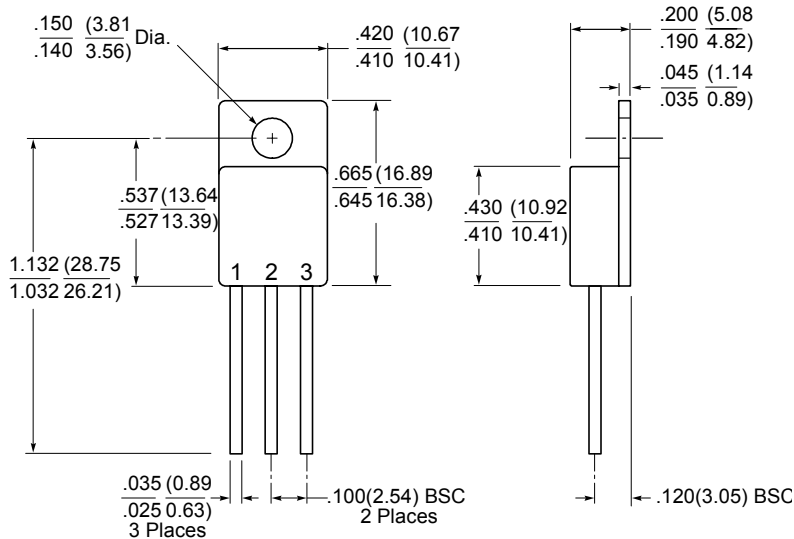
Block Diagram



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MECHANICAL DIMENSIONS: in Inches / mm



TO-257

PINOUT TABLE

TYPE	PIN 1	PIN 2	PIN 3
TO – 257 3A Adjustable Regulator	ADJ	V _{OUT}	V _{IN}

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