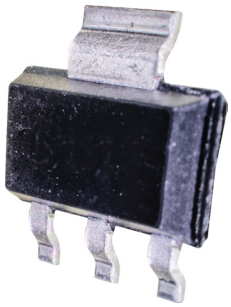
Positive Voltage Regulator
Adjustable 3 Terminal

multicomp PRO

RoHS Compliant



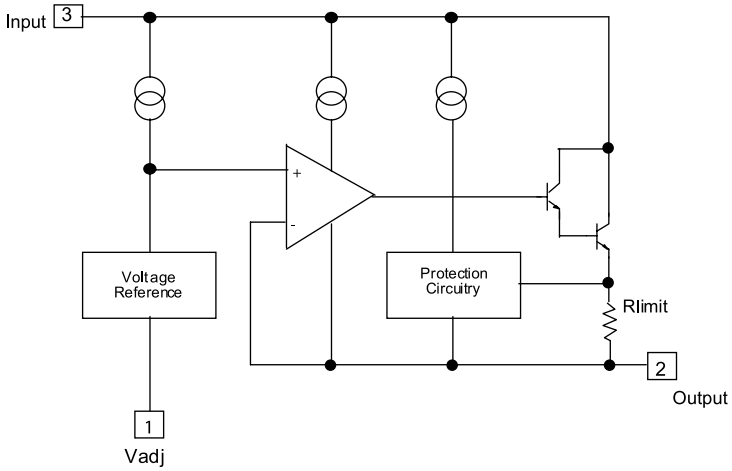
Features

- Internal thermal overload protection
- Internal short circuit current limiting
- Output transistor safe operating area compensation
- This monolithic integrated circuit is an adjustable 3-terminal positive voltage regulator designed to supply more than 1.5A of load current with an output voltage adjustable over a 1.2 to 37V. It employs internal current limiting , thermal shut-down and safe area compensation.

Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating
Input-Output Voltage Differential	V_I-V_O	40V
Temperature Coefficient of Output Voltage	$\Delta V_O/\Delta T$	±0.02V
Power Dissipation	P_D	Internally limited (W)
Thermal Resistance Junction to Case	$R_{\theta JC}$	5°C/W
Lead Temperature	T_{LEAD}	230°C
Operating Junction Temperature Range	T_J	125°C
Storage Temperature Range	T_{stg}	-55°C to +150°C

Internal Block Diagram



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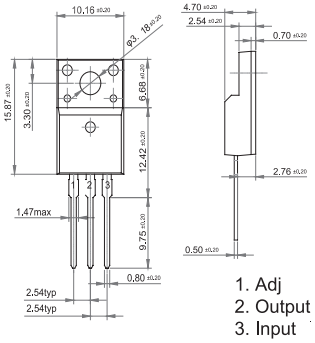
Electrical Characteristics (Vo-VI=5V, Io=0.5A, 0°C≤TJ≤+125°C, IMAX=1.5A,PMAX=20W, unless otherwise specified)

Parameter Name	Symbol	Test Conditions	Min	Typ	Max	Unit
Line Regulation	Rline	3V≤VI-Vo≤40V Ta=25°C		0.01	0.04	%/V
		3V≤VI-Vo≤40V		0.02	0.07	
Load Regulation	Rload	Ta=25°C, 10mA≤Io≤IMAX Vo<5V		18	25	mV%/Vo
		Vo≥5V		0.4	0.5	
		10mA≤Io≤IMAX Vo<5V		40	70	
		Vo≥5V		0.8	1.5	
Adjustable Pin Current	IADJ			46	100	uA
Adjustable Pin Current Change	ΔIADJ	3V≤VI-Vo≤40V 10mA≤Io≤IMAX, PD≤PMAX		2	5	
Reference Voltage	VREF	3V≤VI-Vo≤40V 10mA≤Io≤IMAX, PD≤PMAX	1.2	1.25	1.3	V
Temperature Stability	STT			0.7	1.5	%/Vo
Minimum Load Current to Maintain Regulation	IL(min)	VI-Vo=40V		3.5	12	mA
Maximum Output Current	IO(max)	VI-Vo≤15V, PD≤PMAX	1	2.2		A
		VI-Vo≤40V, PD≤PMAX Ta=25°C		0.3		
RMS Noise, % of VOUT	eN	Ta=25°C,10Hz≤f≤10kHz		0.003	0.01	%/Vo
Ripple Rejection	RR	Vo=10V, f =120Hz without CADJ		60		dB
		Vo=10V, f =120Hz ,CADJ=10uF	66	75		
Long-Term Stability,TJ=THIGH	ST	Ta=25°C for end point mesasurements,1000HR		0.3	1	%

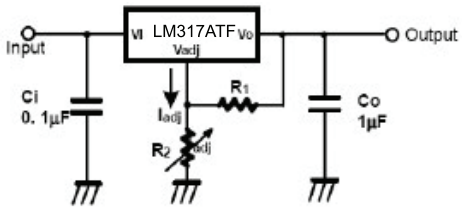
Diagram



1. Adj
2. Output
3. Input

Dimensions : Millimetres

Typical Application



$V_O = 1.25V\ (1 + R_2/R_1) + I_{adj} R_2$

Part Number Table

Description	Part Number
Positive Voltage Regulator, 1.2 V to 37V, 1.5A, TO-220	LM317AT