

3-TERMINAL 1.5A POSITIVE ADJUSTABLE VOLTAGE REGULATOR

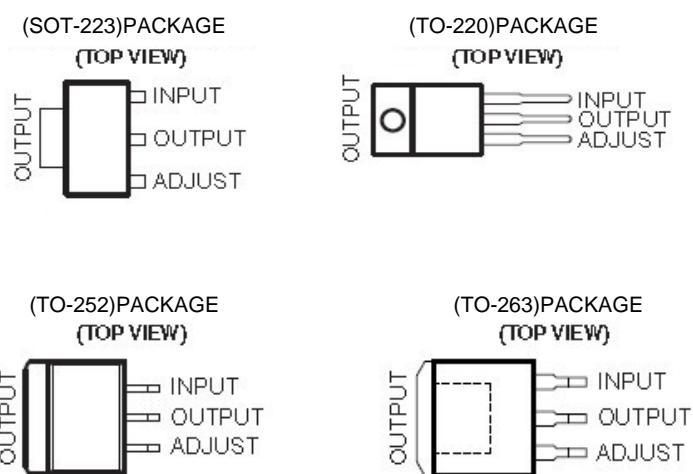
DESCRIPTION

The LM317 is an adjustable 3-terminal positive voltage regulator designed to supply more than 1.5A of Output current with voltage adjustable from 1.3V-37V.

FEATURES

- Output current up to 1.5A
- Output voltage adjustable from 1.3V to 37V
- Internal short circuit protection
- Internal over temperature protection
- Safe-area compensation for output transistor

PIN DESCRIPTION



ABSOLUTE MAXIMUM RATINGS

(Ta=25°C, UNLESS OTHERWISE SPECIFIED)

PARAMETERS	SYMBOL	RATING	UNITS
Input-Output Voltage Difference	V_i-V_o	40	V
Lead Temperature	T_{LEAD}	260	°C
Power Dissipation	P_D	Internal Limited	-
Operating Temperature Range	T_{OPR}	0~+125	°C
Storage Temperature Range	T_{STG}	-60~+150	°C

ELECTRICAL CHARACTERISTICS

($V_i-V_o=5V, 0<T_j<125^\circ C, I_O=500mA, I_{max}=1.5A, P_{max}=20W$, UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	TEST CONDITLONS	MIN	TYP	MAX	UNIT
Line regulation	ΔV_o	Ta=25°C, 3V≤Vi-Vo≤40V		0.01	0.04	%V
		Ta=0-125°C, 3V≤Vi-Vo≤40V		0.02	0.07	
Load Regulation	ΔV_o	Ta=25°C 10mA≤IO≤Imax	Vo≤6V	18	25	mV
			Vo≤5V	0.4	0.5	%Vo
	ΔV_o	10mA≤IO≤Imax	Vo≤5V	40	70	mV
			Vo≤5V	0.8	1.5	%Vo
Adjustable Pin Current	IADJ			46	100	uA
Adjustable Pin Current Change	ΔI_{ADJ}	2.5V≤Vi-Vo≤40V, 10mA≤Io≤Imax,PD≤Pmax		2.0	5	uA
Reference Voltage	VREF	3V≤Vi-Vo≤40V, 10mA≤Io≤Imax,PD≤Pmax	1.2	1.25	1.3	V
Temperature Stability	STT			0.7		%Vo
Minimum Load Current for regulation	IL(MIN)	Vi-Vo=40V		3.5	10	mA
Maximum output Current	IO(MAX)	Vi-Vo=15V,PD≤Pmax	1.5	2.2		A
		Vi-Vo=15V,PD≤Pmax,Ta=25°C	0.15	0.4		
RMS Noise v.s.%of Vout	eN	Ta=25°C,10Hz≤F≤10KHz		0.003	0.01	%Vo
Ripple Rejection	RR	Vo=10V,F=120Hz,Cadj=0		60		dB
		Vo=10V,F=120Hz,Cadj=10uF	66	75		
Load-term Stability, Tj=THIGH	ST	Ta=25°C,1000 hr		0.3	1	%

Note: Testing with low duty pulse should be used to avoid heating effect.