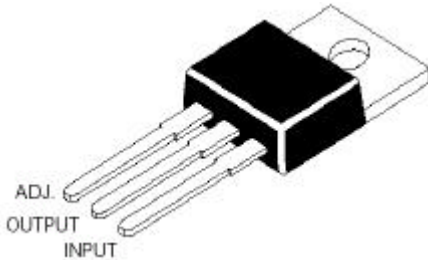


### 3-TERMINAL 1A POSITIVE ADJUSTABLE VOLTAGE REGULATOR

LM317

TO-220  
Plastic Package



#### APPLICATIONS

The voltages available allow these Regulators to be used in Logic Systems, Instrumentation, Hi-Fi Audio Circuits and other Solid State Electronic Equipment

#### FEATURES

Internal Short Circuit Protection and Internal Over Temperature Protection

#### ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)

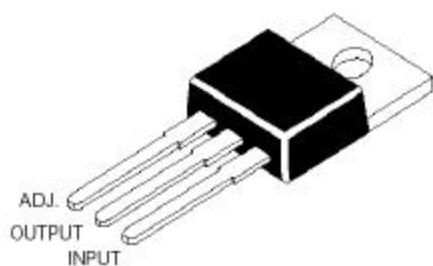
DESCRIPTION	SYMBOL	VALUE	UNIT
Input Output Voltage Difference	V <sub>I</sub> - V <sub>O</sub>	40	V
Lead Temperature	T <sub>lead</sub>	230	°C
Power Dissipation	P <sub>D</sub>	Internal Limited	
Operating Temperature Range	T <sub>amb</sub>	0 ~ 125	°C
Storage Temperature Range	T <sub>stg</sub>	- 65 ~150	°C

#### ELECTRICAL CHARACTERISTICS

V<sub>I</sub>-V<sub>O</sub>=5V, 0°C <T<sub>J</sub> <125°C, I<sub>O</sub>=500mA, (Max=1.5A, P<sub>max</sub>=20W, unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Line Regulation	ΔV <sub>O</sub>	T <sub>a</sub> =25°C, 3V<=V <sub>I</sub> -V <sub>O</sub> <=40V			0.04	%/V
		T <sub>a</sub> =0 -125°C, 3V<=V <sub>I</sub> -V <sub>O</sub> <=40V			0.07	%/V
Load Regulation	ΔV <sub>O</sub>	T <sub>a</sub> =25°C, V <sub>O</sub> <=6V			25	mV
		10mA<=I <sub>O</sub> <=IMAX V <sub>O</sub> >=5V			0.5	%/V <sub>O</sub>
		10mA<=I <sub>O</sub> <=IMAX V <sub>O</sub> <=5V V <sub>O</sub> >=6V			70	mV
Adjustable Pin Current	I <sub>ADJ</sub>				100	μA
Adjustable Pin Current Change	ΔI <sub>ADJ</sub>	2.5V<=V <sub>I</sub> -V <sub>O</sub> <=40V, 10mA<=I <sub>O</sub> <=IMAX, P <sub>D</sub> <=P <sub>MAX</sub>			5.0	μA
Reference Voltage	V <sub>REF</sub>	3V<=V <sub>I</sub> -V <sub>O</sub> <=40V, 10mA<=I <sub>O</sub> <=IMAX, P <sub>D</sub> <=P <sub>MAX</sub>	1.2		1.3	V
Temperature Stability	S <sub>TT</sub>			0.7		%/V <sub>O</sub>
Minimum Load Current for Regulation	I <sub>L(min)</sub>	V <sub>I</sub> -V <sub>O</sub> =40V			10	mA

LM317Rev110205E



## ELECTRICAL CHARACTERISTICS

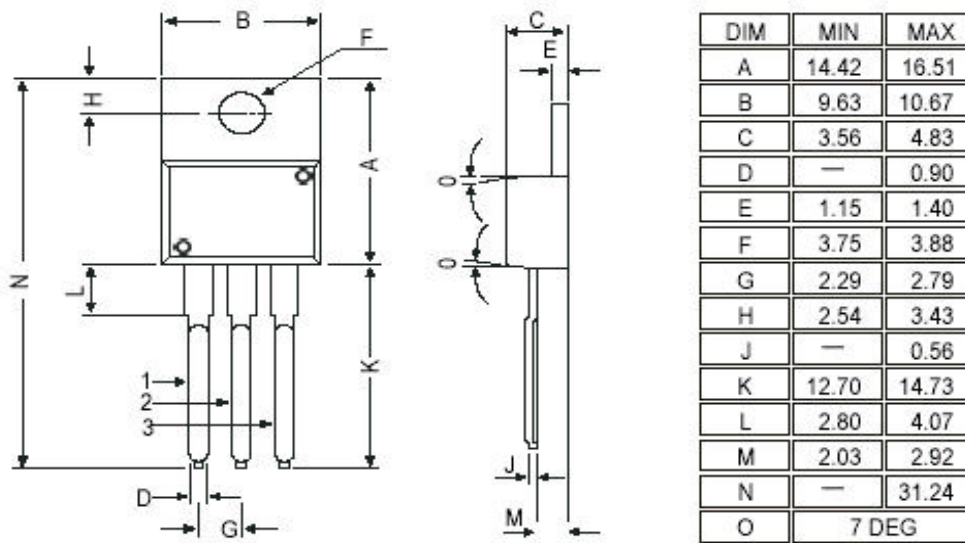
$V_I - V_O = 5V$ ,  $0^\circ C < T_J < 125^\circ C$ ,  $I_O = 500mA$ , (Max=1.5A,  $P_{max} = 20W$ , unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Maximum Output Current	$I_{O(max)}$	$V_I - V_O = 15V$ , $P_D \leq P_{MAX}$	1.5			A
		$V_I - V_O = 40V$ , $P_D \leq P_{MAX}$ , $T_a = 25^\circ C$	0.15			A
RMS Noise V.S% of $V_{out}$	eN	$T_a = 25^\circ C$ , $10Hz \leq f \leq 10KHz$			0.01	%/VO
Ripple Rejection	$R_R$	$V_O = 10V$ , $f = 120Hz$		60		dB
		$V_O = 10V$ , $f = 120Hz$ , $C_{ADJ} = 10\mu F$	66			dB
Long Term Stability, $T_J = T_{HIGH}$	$S_T$	$T_a = 25^\circ C$ , 1000hr			1.0	%
Junction to Case Thermal Resistance	$R_{th(j-c)}$			5.0		$^\circ C/W$

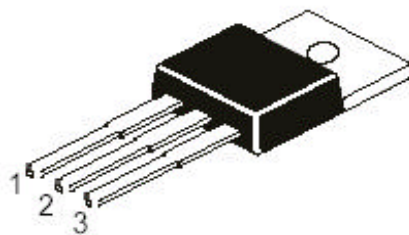
Note: Testing with low duty pulse should be used to avoid heating effect

LM317Rev110205E

TO-220 Plastic Package



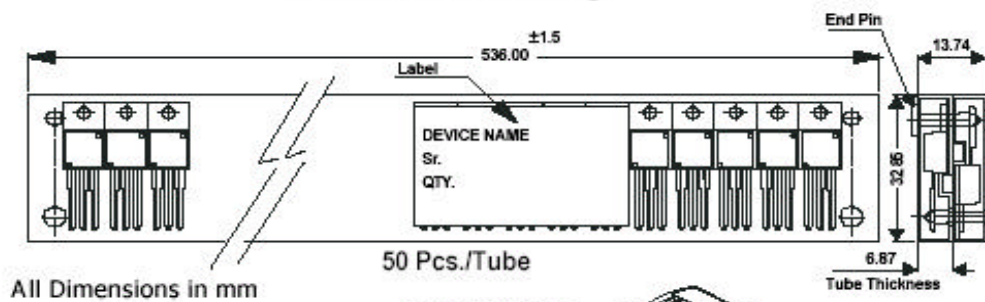
All dimensions in mm.



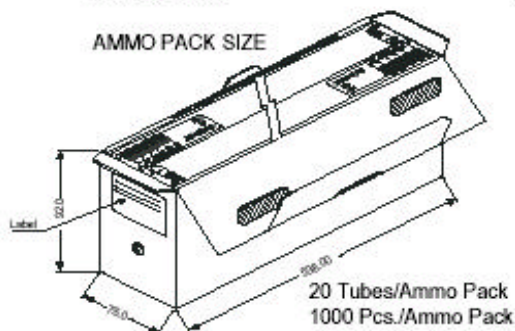
Pin Configuration

1. ADJ.
2. OUTPUT
3. INPUT

TO-220 Tube Packing



AMMO PACK SIZE



Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220	200 pcs/polybag	396 gm/200 pcs	3' x 7.5' x 7.5'	1.0K	17' x 15' x 13.5'	16.0K	36 kgs
	50 pcs/tube	120 gm/50 pcs	3.5' x 3.7' x 21.5'	1.0K	19' x 19' x 19'	10.0K	29 kgs

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C-120 Naraina Industrial Area, New Delhi 110 028, India.  
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119  
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