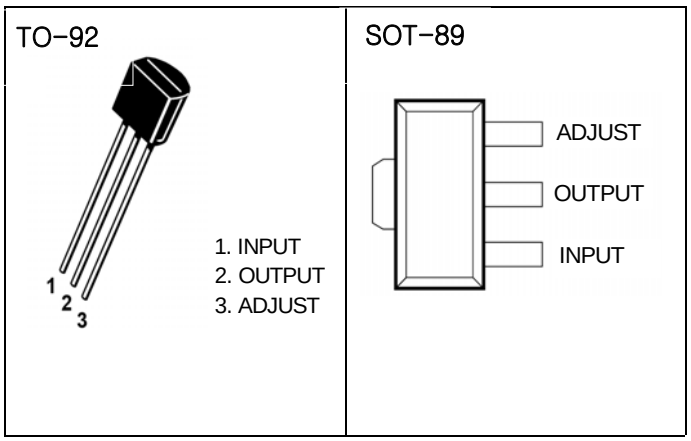
100mA ADJUSTABLE OUTPUT, POSITIVE VOLTAGE REGULATOR IC

IL317L

Features

- Output Current in Excess of 100mA
- Output Adjustable Between 1.2 V and 37 V
- Internal Shot Circuit Current Limiting
- Internal Thermal Overload Protection
- Output Transistor Safe-Area Compensation
- Floating Operation for High Voltage Applications
- Standard 3-Lead Transistor Package
- Eliminates Stocking Many Fixed Voltages

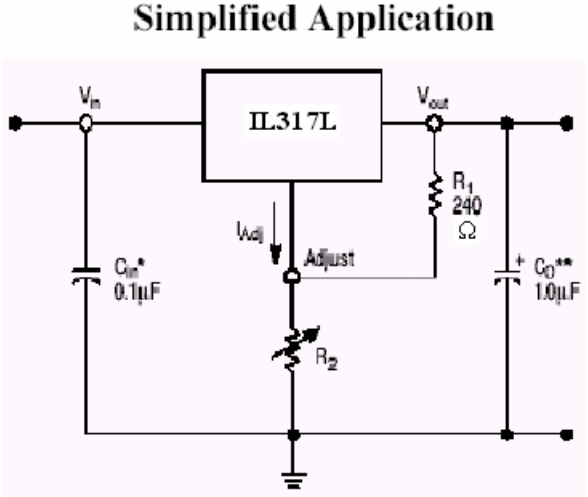
PIN CONNECTIONS



ABSOLUTE MAXIMUM RATINGS

Input - Output Voltage Differential	40 V
Operating Junction Temperature Range	-40°C to +125°C

Simplified Application



from power supply filter.

**Co is not needed for stability, however, it does improve transient response.

Vout = 1.25 V (1+R2/R1) + I_{Adj}R2

Since I_{Adj} is controlled to less than 100μA, the error associated with this term is negligible in most applications.

ELECTRICAL CHARACTERISTICS DIE ON WAFER

(VI - Vo = 3.0V, IO = 40mA, TA=25°C, unless otherwise noted, Imax and Pmax (Note 1)

CHARACTERISTIC	Symbol	TEST CONDITION	Min	Max	Unit
Reference Voltage (TA= -10°C to +125°C)	VO	3.0V≤ VI-Vo ≤40V 10mA≤ Io ≤ Imax, PD ≤ Pmax	1.2	1.3	V
Line Regulation (Note 2)	ΔVOV	3.0V≤ VI-Vo ≤40V, Io=10mA		160	mV
Line Regulation (TA= -10°C to +125°C), (Note 2)	ΔVOV	3.0V≤ VI-Vo ≤40V, Io=10mA		180	mV
. Load Regulation, (Note 2)	ΔVOI	10mA≤ Io ≤ Imax, VO = 5.0V		6.0	mV
Load Regulation (TA= -10°C to +125°C), (Note 2)	ΔVOI	10mA≤ Io ≤ Imax, VO = 5.0V		10	mV
Adjustment Pin Current	IAdj		10	100	µA
Adjustment Pin Current Change	ΔIAdj	3.0V≤ VI-Vo ≤40V 10mA≤ Io ≤ Imax, PD ≤ Pmax		5.0	µA
Maximum Output Current	IO MAX	VI-VO =3.0V, PD ≤ Pmax VI-VO = 40V, PD ≤ Pmax	0.1 0.025	0.3 0.15	A
Minimum Load Current to Maintain Regulation VO=1.2V, f=120Hz	IL MIN	VI-Vo ≤40V		10	mA
Ripple Rejection	RR	Vo = 1.2V, f= 120Hz	66		dB

Notes: 1. Imax=100mA, Pmax=625mW;

2. Load and line regulation are specified at constant junction temperature. Changes in VO due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

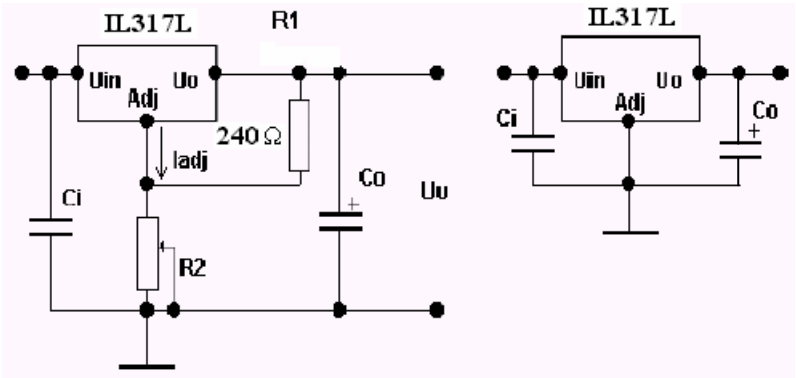


Fig.1 Test Circuit for Vo>1.25V

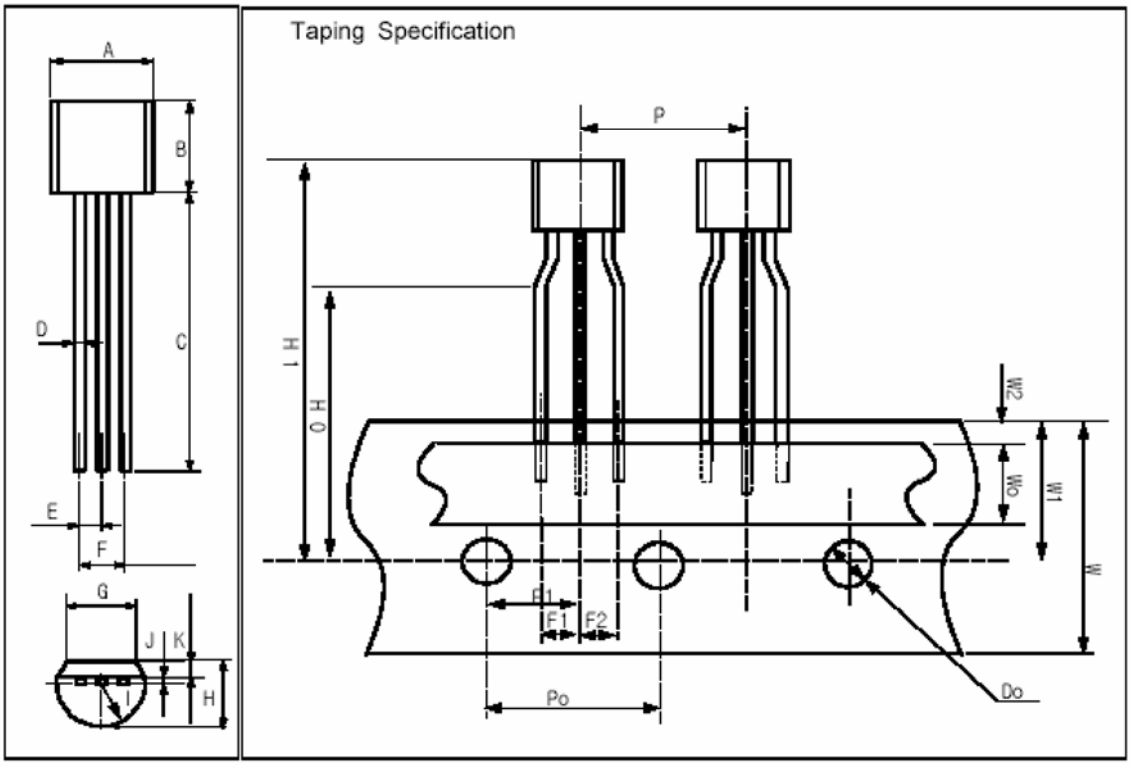
Ci=0,1µF, Co=1,0 µF.
Vo=1,25(1+R2/R1)I_{ADJ} R2

Fig.2 Test Circuit for Vo=1.25V

Ci=0,1µF, Co=1,0 µF.

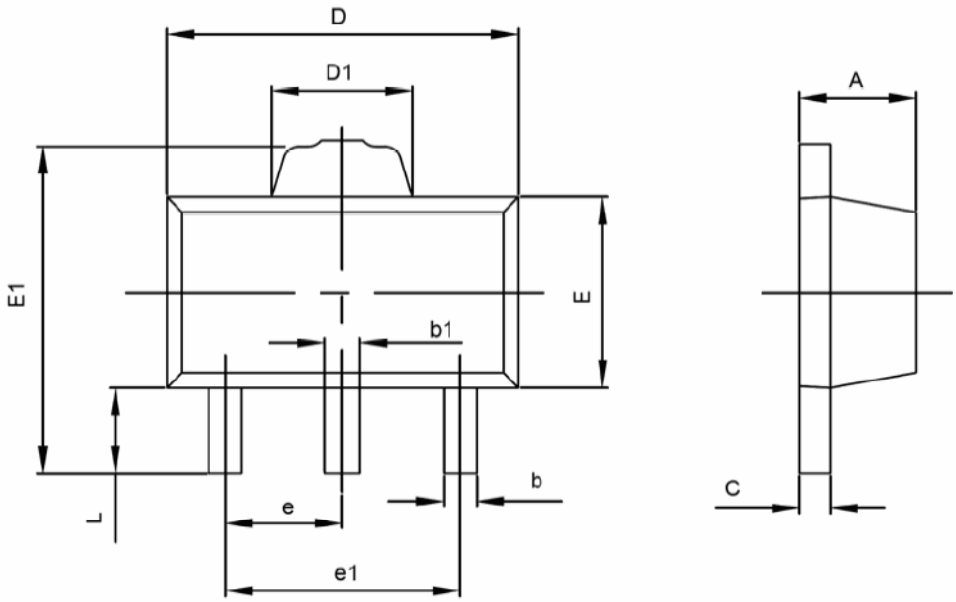
PACKAGE OUTLINE

[TO-92]



Package Dimension(unit:mm)				Taping Dimension(unit:mm)			
Symbol	Min	Typ	Max	Symbol	Min	Typ	Max
A	4.43	4.58	4.83	P	12.2	12.7	13.2
B	4.38	4.58	4.78	PO	12.5	12.7	12.9
C	14.07	14.47	14.87	P1	5.85	6.35	6.85
D	0.36	0.46	0.56	F1,F2	2.4	2.5	2.9
E	1.07	1.27	1.47	W	17.5	18.0	19.0
F	2.34	2.54	2.74	WO	5.5	6.0	6.5
G	3.40	3.60	3.80	W1	8.5	9.0	9.5
H	-	-	3.86	W2	-	-	1.0
I	-	[R2.29]	-	HO	15.5	16.0	16.5
J	0.33	0.38	0.39	H1	-	-	27.0
K	0.92	1.02	1.12	DO	3.8	4.0	4.2

SOT-89-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043