

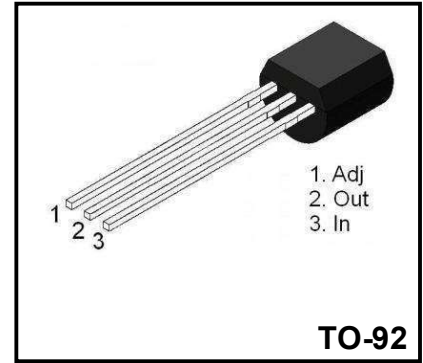
3-Terminal 0.1A Positive Adjustable Regulator

Description

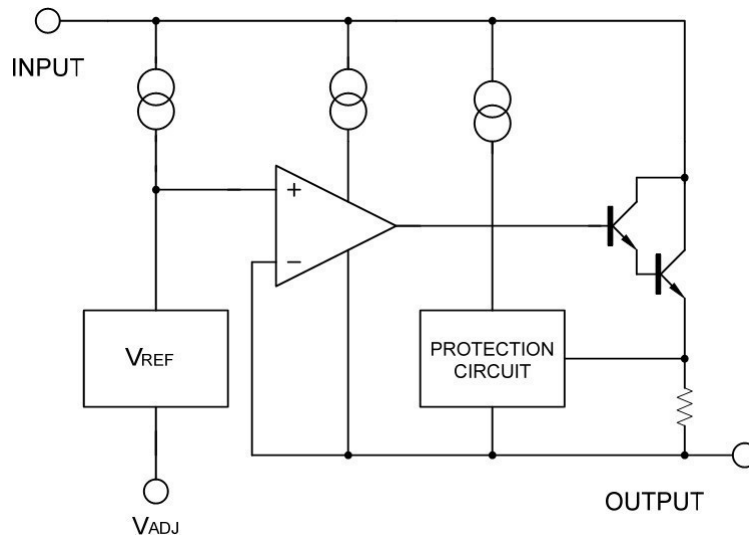
◆The LM317L is a monolithic integrated circuit, designed to supply 100mA of output current with voltage adjustable from 1.25V to 37V.

Features

- ◆Output Voltage adjustable from 1.25 to 37V
- ◆Output current in excess of 100mA
- ◆Internal thermal overload protection
- ◆Internal short circuit current limiting
- ◆Output transistor safe area compensation



Block Diagram



Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_{i-o}	Input-output Differential Voltage	40	V
I_o	Output Current	Intenrally Limited	
V_o	Out put Voltage	5	V
T_{OP}	Operating Junction Temperature	0~+125	°C
T_{STG}	Storage Temperature	-60~+150	°C

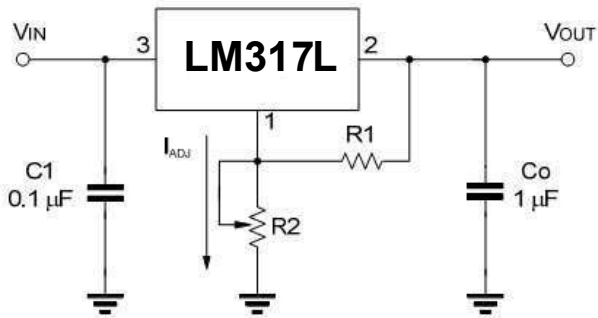
Electrical Characteristics

 (V_I - V_O = 5 V, I_O = 500 mA, I_{MAX} = 1.5A and P_{MAX} = 20W, unless otherwise specified)

Parameter	Symbol	Conditions		Value			Unit
				Min	Typ	Max	
Line Regulation	ΔV_O	V _I -V _O =3 to 40V, I _{LOAD} ≤20mA				0.04	%V
Load Regulation	ΔV_O	I _O = 5mA~100mA	V _{OUT} ≤5V			25	mV
			V _{OUT} ≥5V			0.5	%
Adjustment Pin Current	I _{ADJ}	T _J = 25°C				100	μA
Adjustment Pin Current	ΔI_{ADJ}	V _I -V _O = 3 to 40V, I _O = 5mA~100mA				5	μA
Reference Voltage (between pin3 and pin1)	V _{REF}	V _I -V _O = 3 to 40V I _O = 5mA~100mA, P _D ≤625mW		1.20	1.25	1.30	V
Minimum Load Current	I _{L(min)}	V _I -V _O = 40V				10	mA
Maximum Output Current	I _{O(max)}	V _I -V _O = 40V, P _D ≤625mW				100	mA
RMS Noise vs. %of V _{OUT}	eN	f = 10 to 10KHz				0.01	%V
Ripple Rejection	RR	V _{OUT} = 10V, f = 120Hz	C _{ADJ} = 0		65		dB
			C _{ADJ} = 10μF	60			dB

 Note: C_{ADJ} is connected between Adjust pin and Ground.

Application Circuits



$$V_{out} = 1.25 \cdot (1 + R2/R1) + I_{ADJ} \cdot R$$

C1 is required when regulator is located an appreciated distance from power supply. Co is needed to improve transient response.

Fig.1 Prgramable Voltage Regulator

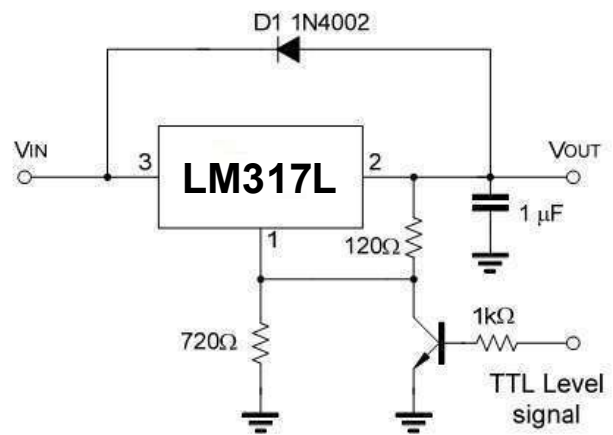


Fig.2 Regulator with ON-off control

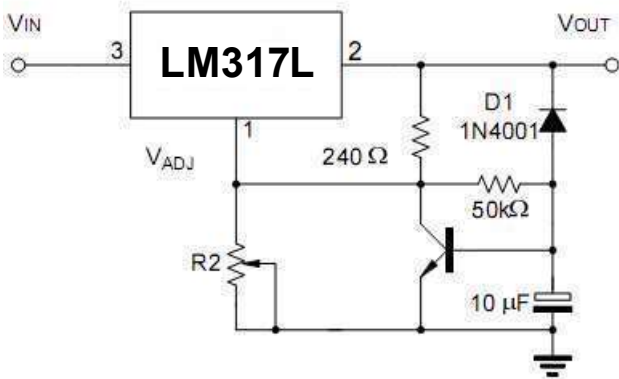
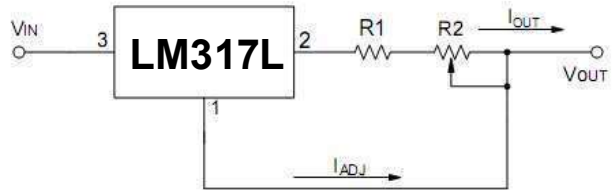


Fig.3 Soft Start Application



$$I_{O(MAX)} = \left(\frac{V_{REF}}{R1} \right) + I_{ADJ} = \frac{1.25V}{R1}$$

$$I_{O(MIN)} = \left(\frac{V_{REF}}{R1+R2} \right) + I_{ADJ} = \frac{1.25V}{R1+R2}$$

$$5mA < I_{OUT} < 100mA$$

Fig.4. Constant Current Application

Typical Characteristics

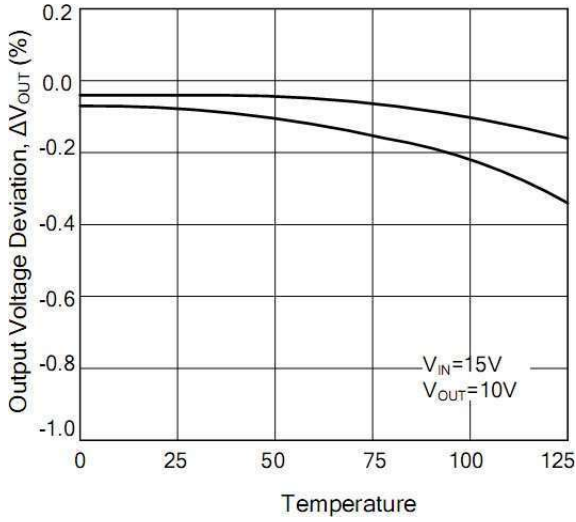


Fig.1. Load Regulation vs. temperature

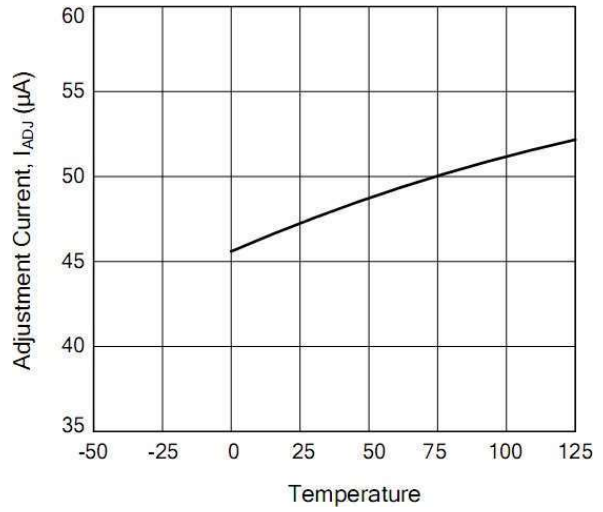


Fig.2. Adjustment Current vs. Temperature

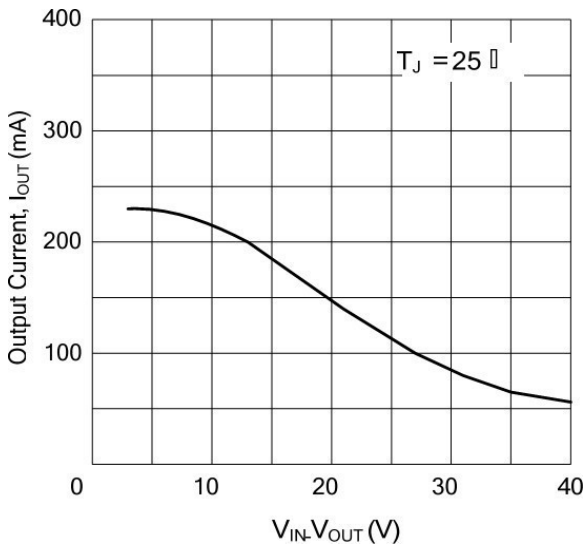


Fig.3. Currents Limit

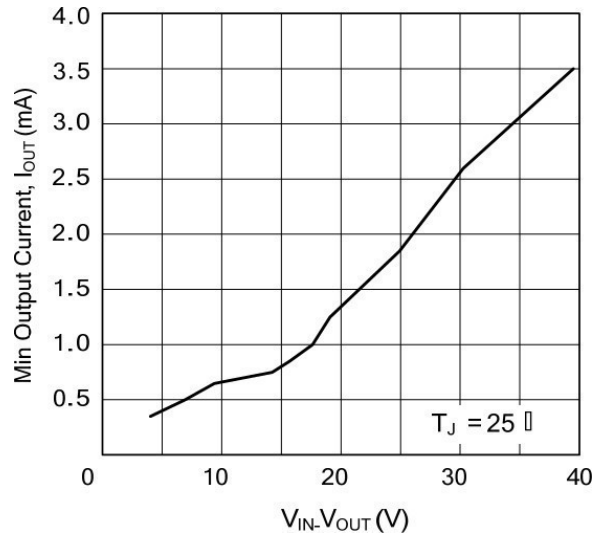
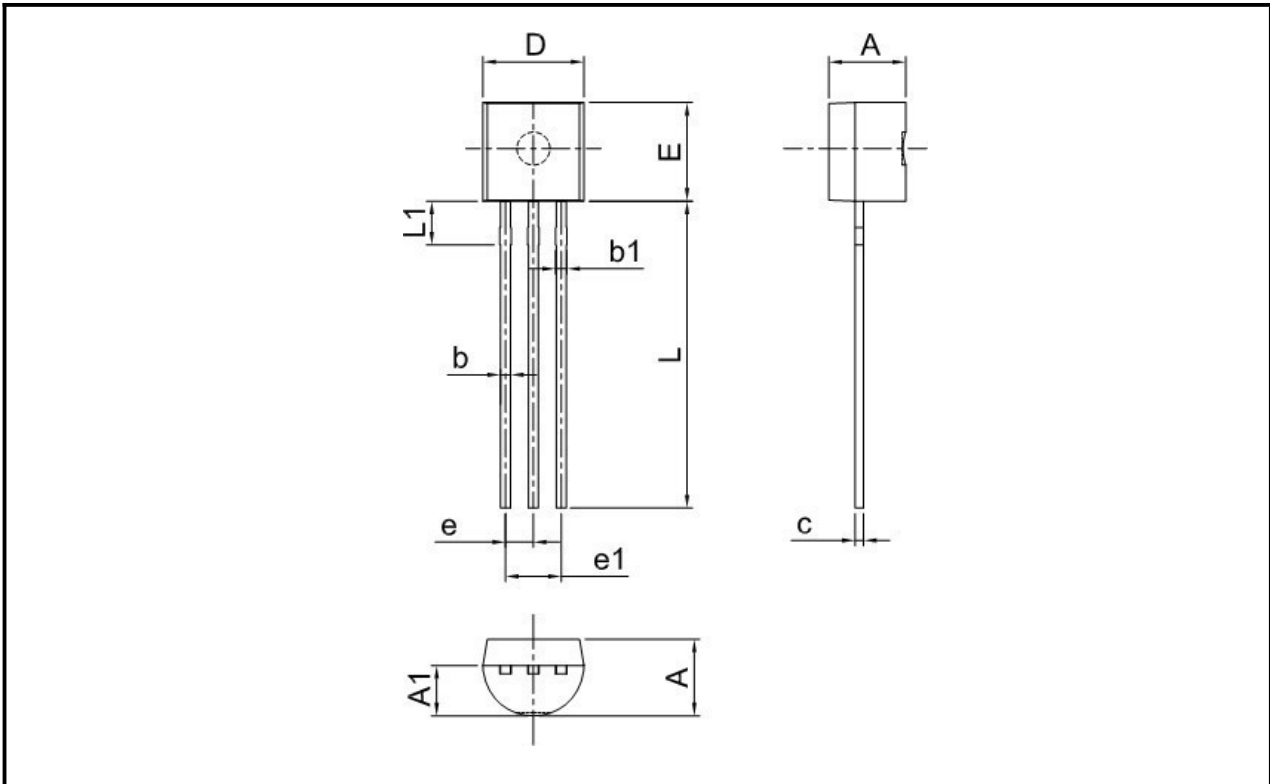


Fig.4. Minimum Operating Current

Package Dimensions

TO-92



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

Package	Packing Method	Pack Quantity
TO-92	Bulk	1000pcs/Bag
TO-92	Tape	2000pcs/Box

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [LDO Voltage Regulators](#) category:

Click to view products by [YFW Electronics](#) manufacturer:

Other Similar products are found below :

[AP7363-SP-13](#) [NCV8664CST33T3G](#) [L79M05TL-E](#) [AP7362-HA-7](#) [PT7M8202B12TA5EX](#) [TCR3DF185,LM\(CT](#) [TLF4949EJ](#)
[NCP4687DH15T1G](#) [NCV8703MX30TCG](#) [LP2951CN](#) [NCV4269CPD50R2G](#) [AP7315-25W5-7](#) [NCV47411PAAJR2G](#) [AP2111H-1.2TRG1](#)
[ZLDO1117QK50TC](#) [AZ1117ID-ADJTRG1](#) [NCV4263-2CPD50R2G](#) [NCP114BMX075TCG](#) [MC33269T-3.5G](#) [TLE4471GXT](#) [AP7315-33SA-](#)
[7](#) [NCV4266-2CST33T3G](#) [NCP715SQ15T2G](#) [NCV8623MN-50R2G](#) [NCV563SQ18T1G](#) [NCV8664CDT33RKG](#) [NCV4299CD250R2G](#)
[NCP715MX30TBG](#) [NCV8702MX25TCG](#) [L974113TR](#) [TLE7270-2E](#) [NCV562SQ25T1G](#) [AP2213D-3.3TRG1](#) [AP2202K-2.6TRE1](#)
[NCV8170BMX300TCG](#) [NCV8152MX300180TCG](#) [NCP700CMT45TBG](#) [AP7315-33W5-7](#) [LD56100DPU28R](#) [NCP154MX180300TAG](#)
[AP2210K-3.0TRE1](#) [AP2113AMTR-G1](#) [NJW4104U2-33A-TE1](#) [MP2013AGG-5-P](#) [NCV8775CDT50RKG](#) [NJM2878F3-45-TE1](#) [S-](#)
[19214B00A-V5T2U7](#) [S-19214B50A-V5T2U7](#) [S-19213B50A-V5T2U7](#) [S-19214BC0A-E8T1U7*1](#)