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# LM317L Product Folder

## 3-Terminal Adjustable Regulator

**See Also:** [LM317 - 1.5A VERSION](#)  
[LM317HV - 60V VERSION](#)  
[LM5008 - 350MA 100V HIGH-EFFICIENCY REG](#)  
[LM337L - NEGATIVE OUTPUT VERSION](#)

<a href="#">General Description</a>	<a href="#">Features</a>	<a href="#">Datasheet</a>	<a href="#">Package &amp; Models</a>	<a href="#">Samples &amp; Pricing</a>	<a href="#">Reliability Metrics</a>	<a href="#">Application Notes</a>
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Parametric Table

Temperature Min (deg C)	-40
Temperature Max (deg C)	125
Multiple Output Capability	No
On/Off Pin	No
Error Flag	-
InputMin Voltage (Volt)	4.20

Parametric Table









InputMax Voltage (Volt)	40
Output Current (mA)	100
Watchdog	-
RegType	Linear Regulator
Output Min (Volt)	1.20
Output Max (Volt)	37

**Datasheet**

	Size in Kbytes	Date	 View Online	 Download	 Receive via Email
LM317L 3-Terminal Adjustable Regulator	921 Kbytes	28-Feb-05	<a href="#">View Online</a>	<a href="#">Download</a>	<a href="#">Receive via Email</a>
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### Package Availability, Models, Samples & Pricing

Part Number	Package			Status		Models		Samples & Electronic Orders	Budgetary Pricing		Std Pack Size	Package Marking Format
	Type	Pins	MSL Pb-Free Availability	Lead Time	Qty	SPICE	IBIS		Qty			
LM317LIBP	MICROSMD	6	MSL/RoHS	Full production 6 weeks	10000	N/A	N/A	 	1K+		reel of 250	XV I
LM317LIBPX	MICROSMD	6	MSL/RoHS	Full production 6 weeks	10000	N/A	N/A		1K+		reel of 3000	XV I
LM317LM	SOIC NARROW	8	MSL/RoHS	Full production 14 weeks	50000	N/A	N/A	<i>Fee</i>  	1K+		rail of 95	NSZXTT LM317 LM
LM317LMX	SOIC NARROW	8	MSL/RoHS	Full production 14 weeks	25000	N/A	N/A		1K+		reel of 2500	NSZXTT LM317 LM
LM317LZ	TO 92	3	MSL/RoHS	Full production 4 weeks	25000	N/A	N/A	<i>Fee</i>  	1K+		box of 1800	NSXYTT LM317 LZ

LM317L MDA	Unpackaged Die	Full production		N/A	N/A				tray of N/A	-
		N/A	N/A							
LM317L MWA	Wafer	Full production		N/A	N/A				wafer jar of N/A	-
		N/A	N/A							

## General Description

The LM317L is an adjustable 3-terminal positive voltage regulator capable of supplying 100mA over a 1.2V to 37V output range. It is exceptionally easy to use and requires only two external resistors to set the output voltage. Further, both line and load regulation are better than standard fixed regulators. Also, the LM317L is available packaged in a standard TO-92 transistor package which is easy to use.

In addition to higher performance than fixed regulators, the LM317L offers full overload protection. Included on the chip are current limit, thermal overload protection and safe area protection. All overload protection circuitry remains fully functional even if the adjustment terminal is disconnected.

Normally, no capacitors are needed unless the device is situated more than 6 inches from the input filter capacitors in which case an input bypass is needed. An optional output capacitor can be added to improve transient response. The adjustment terminal can be bypassed to achieve very high ripple rejection ratios which are difficult to achieve with standard 3-terminal regulators.

Besides replacing fixed regulators, the LM317L is useful in a wide variety of other applications. Since the regulator is "floating" and sees only the input-to-output differential voltage, supplies of several hundred volts can be regulated as long as the maximum input-to-output differential is not exceeded.

Also, it makes an especially simple adjustable switching regulator, a programmable output regulator, or by connecting a fixed resistor between the adjustment and output, the LM317L can be used as a precision current regulator. Supplies with electronic shutdown can be achieved by clamping the adjustment terminal to ground which programs the output to 1.2V where most loads draw little current.

The LM317L is available in a standard TO-92 transistor package, the SO-8 package, and 6-Bump micro SMD package. The LM317L is rated for operation over a -25°C to 125°C range.

## Features

- Adjustable output down to 1.2V
- Guaranteed 100mA output current
- Line regulation typically 0.01%V
- Load regulation typically 0.1%
- Current limit constant with temperature
- Eliminates the need to stock many voltages
- Standard 3-lead transistor package
- 80dB ripple rejection
- Available in TO-92, SO-8, or 6-Bump micro SMD package
- Output is short circuit protected
- See AN-1112 for micro SMD considerations

## Reliability Metrics

Part Number	Process	Early Failure Rate - Rejects	Sample Size (EFR)	PPM *	Rel. Rejects	Device Hours	Long Term Failure Rates (FITS)	MTTF
LM317LM	SLM	0	24380	0	0	922500	4	261761848
LM317LMX	SLM	0	24380	0	0	922500	4	261761848
LM317LZ	SLM	0	24380	0	0	922500	4	261761848

For more information on Reliability Metrics, please click [here](#).

## Application Notes

Title	Size in Kbytes	Date	 View Online	 Download	 Receive via Email
<b>AN-1148:</b> Application Note 1148 Linear Regulators: Theory of Operation and Compensation	200 Kbytes	25-Sep-02	<a href="#">View Online</a>	<a href="#">Download</a>	<a href="#">Receive via Email</a>
<b>AN-556:</b> Application Note 556 Introduction to Power Supplies	159 Kbytes	25-Sep-02	<a href="#">View Online</a>	<a href="#">Download</a>	<a href="#">Receive via Email</a>
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