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LM317HV Product Folder

3-Terminal Adjustable Regulator

See Also: [LM5008 - 100V 350MA SWITCHING REG](#)
[LM5010 - 80V 1A SWITCHING REG](#)

General Description	Features	Datasheet	Package & Models	Samples & Pricing	Reliability Metrics	Application Notes
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Parametric Table

Temperature Min (deg C)	0000000000.0000
Temperature Max (deg C)	125
Multiple Output Capability	No
On/Off Pin	No
Error Flag	No
InputMin Voltage (Volt)	4.20

Parametric Table

InputMax Voltage (Volt)	60
Output Current (mA)	500
Watchdog	No
RegType	Linear Regulator
Output Min (Volt)	1.20
Output Max (Volt)	57

Datasheet

	Size in Kbytes	Date	 View Online	 Download	 Receive via Email

LM117HV/LM317HV 3-Terminal Adjustable Regulator	469 Kbytes	14-Apr-00	View Online	Download	Receive via Email
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Package Availability, Models, Samples & Pricing

Part Number	Package			Status		Models		Samples & Electronic Orders			Std Pack Size	Package Marking Format
	Type	Pins	MSL Pb-Free Availability	Lead Time	Qty	SPICE	IBIS		Qty			
LM317HVT	TO 220	3	MSL/RoHS	Full production		N/A	N/A	Fee  	1K+		rail of 45	NSUZXYTT LM317 HVT P+
				7 weeks	10000							
LM317HVH	TO-39	3	MSL/RoHS	Full production		N/A	N/A		1K+		box of 500	NSZXYTT LM317HVHP+
				8 weeks	1000							
LM317HVK STEEL	TO-3	2	MSL/RoHS	Full production		N/A	N/A		1K+		tray of 50	-
				4 weeks	100							

General Description

The LM117HV/LM317HV are adjustable 3-terminal positive voltage regulators capable of supplying in excess of 1.5A over a 1.2V to 57V output range. They are exceptionally easy to use and require only two external resistors to set the output voltage. Further, both line and load regulation are better than standard fixed regulators. Also, the LM117HV is packaged in standard transistor packages which are easily mounted and handled.

In addition to higher performance than fixed regulators, the LM117HV series offers full overload protection available only in IC's. 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 rejections ratios which are difficult to achieve with standard 3-terminal regulators.

Besides replacing fixed regulators, the LM117HV 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, i.e. do not short the output to ground.

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 LM117HV 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 LM117HVK STEEL and LM317HVK STEEL are packaged in standard TO-3 transistor packages, while the LM117HVH and LM317HVH are packaged in a solid Kovar base TO-39 transistor package. The LM317HVT uses a TO-220 plastic package. The LM117HV is rated for operation from -55°C to +150°C, and the LM317HV from 0°C to +125°C.

Features

- Adjustable output down to 1.2V
- Guaranteed 1.5A output current
- Line regulation typically 0.01%/V
- Load regulation typically 0.1%
- Current limit constant with temperature
- 100% electrical burn-in
- Eliminates the need to stock many voltages
- Standard 3-lead transistor package
- 80 dB ripple rejection
- Output is short-circuit protected
- P+ Product Enhancement tested

Reliability Metrics

Part Number	Process	Early Failure Rate - Rejects	Sample Size (EFR)	PPM *	Rel. Rejects	Device Hours	Long Term Failure Rates (FITS)	MTTF
LM317HVT	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
AN-1148: Application Note 1148 Linear Regulators: Theory of Operation and Compensation	200 Kbytes	25-Sep-02	View Online	Download	Receive via Email

AN-556: Application Note 556 Introduction to Power Supplies	159 Kbytes	25-Sep-02	View Online	Download	Receive via Email
Application Note 556 Introduction to Power Supplies (JAPANESE) 本サイトの日本語版データシートは最新版ではない場合があります。ご検討およびご採用にあたっては、最新の英語版データシートを必ずご確認ください。	171 Kbytes		オンラインで見る	ダウンロード	Eメールで受けとる

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[Information as of 24-Oct-2005]