GJLM317

3-TERMINAL 1.5A POSITIVE ADJUSTABLE VOLTAGE REGULATOR

Description

The GJLM317 is an adjustable 3-termial positive voltage regulator, designed to supply more than 1.5A of output current with voltage adjustable from 1.3 to 37V.

Features

Output current up to 1.5A.

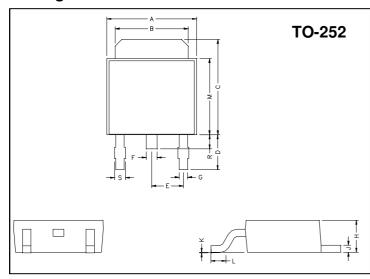
Output voltage adjustable from 1.3V to 37V.

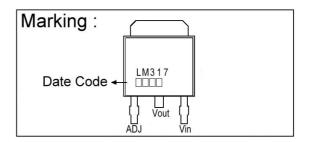
Internal short circuit protection.

Internal over temperature protection.

Safe-Area compensation for output transistor.

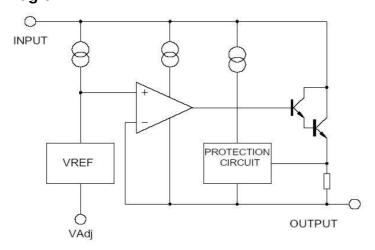
Package Dimensions





REF.	Millimeter		REF.	Millimeter		
	Min.	Max.	nLI.	Min.	Max.	
Α	6.40	6.80	G	0.50	0.70	
В	5.20	5.50	Н	2.20	2.40	
С	6.80	7.20	J	0.45	0.55	
D	2.40	3.00	K	0	0.15	
Е	2.30 REF.		L	0.90	1.50	
F	0.70	0.90	М	5.40	5.80	
S	0.60	0.90	R	0.80	1.20	

Block Diagram



Absolute Maximum Ratings at Ta = 25

Parameter	Symbol Ratings		Unit		
Input-Output Voltage Difference	Vi-Vo	40	V		
Load Temperature	Tlead	230	:		
Power Dissipation	PD	Internal limited			
Operating Temperature Range	Topr	0~+125			
Storage Temperature Range	Tstg	-65~+150			

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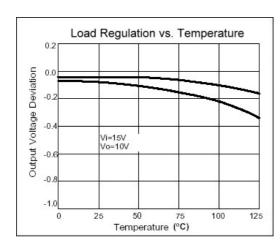
Electrical Characteristics

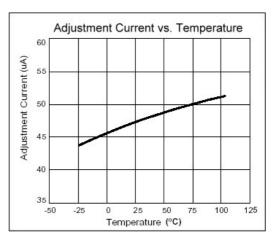
 $(\text{Vi-Vo=5V}, \text{0}: \ <\text{Tj} < \text{125}: \ , \text{Io=500mA}, \text{IMax=1.5A}, \text{PMax=20W}, \text{unless otherwise specified})$

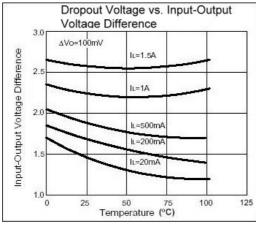
Parameter	er Symbol Test Conditions		ditions	Min	TYP	Max	Unit
Line Degulation	۸۱/۵	Ta=25 : , 3V ≤ Vi-Vo ≤ 40V		-	0.01	0.04	%/V
Line Regulation	ΔVο	Ta=0~125 : , 3V ≤ Vi-Vo ≤ 40V		-	0.02	0.07	%/V
		Ta=25 :	Vo ≤ 6V	-	18	25	mV
Load Regulation	ΔVο	10mA ≤ Io ≤ IMax	Vo≥5V	-	0.4	0.5	%/Vo
Load Regulation	Δνο	10mA ≤ Io ≤ IMax	Vo≤5V	-	40	70	mV
			Vo≥6V	-	0.8	1.5	%/Vo
Adjustable Pin Current	IADJ			-	46	100	μΑ
Adjustable Pin Current Change	ΔIADJ	2.5V ≤ Vi-Vo ≤ 40V, 10mA ≤ Io ≤ IMax, PD ≤ PMax		-	2.0	5	μΑ
Reference Voltage	VREF	3V ≤ Vi-Vo ≤ 40V, 10mA ≤ Io ≤ IMax, PD ≤ PMax		1.20	1.25	1.30	٧
Temperature Stability	STT			-	0.7	-	%/Vo
Minimum Load Current for Regulation	IL(Min)	Vi-Vo=40V		-	3.5	10	mA
Maximum Output Current	lo(Mov)	Vi-Vo ≤ 15V, PD ≤ PMax		1.5	2.2	-	А
Maximum Output Current	lo(Max)	Vi-Vo ≤ 15V, PD ≤ PMax, Ta=25 :		0.15	0.4	-	
RMS Noise v.s. % of Vout	eN	Ta=25 : , 10Hz ≤ f ≤ 10KHz		-	0.003	0.01	%/Vo
Dinale Dejection	RR	Vo=10V, f=120Hz		-	60	-	dB
Ripple Rejection		Vo=10V, f=120Hz, Cadj=10μF		66	75	-	
Long-term Stability, Tj=Thigh	ST	Ta=25: ,1000hr		-	0.3	1	%
unction to Case Thermal Resistance Rθjc		-		-	5	-	: /W

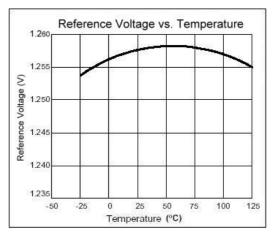
^{*}Note: Testing with low duty pulse should be used to avoid heating effect.

Characteristics Curve









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Application Circuit

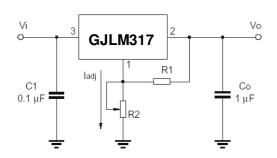


Fig. 1 Programmable voltage regulator Vo=1.25V*(1+R2/R1)+ladj*R2 C1 is required when regulator is located an appreciated distance from power supply. Co is needed to improve transient response.

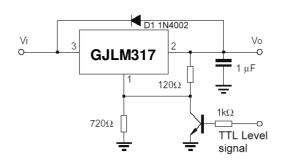


Fig.2 Regulator with On-off control

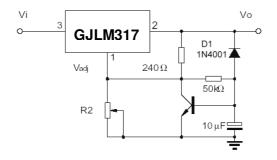


Fig.3 Soft start application

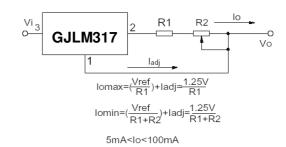


Fig.4 Constant current application

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