TIGER ELECTRONIC CO.,LTD

Product specification

3-Terminal Positive Adjustable Regulator — LM317MDT

Features

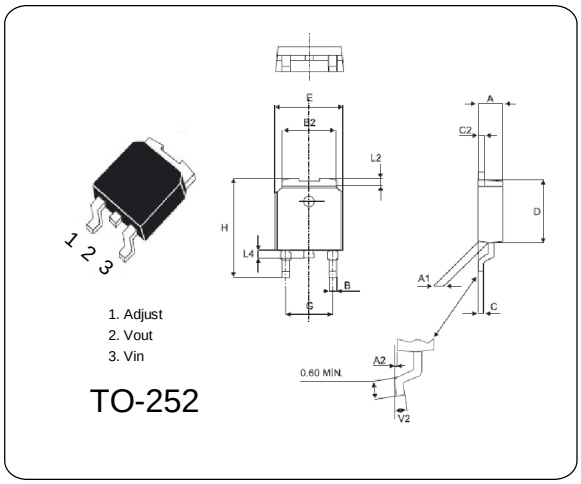
- Output Current In Excess of 1. 0A
- Output Adjustable Between 1. 2V and 37V
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- Output Transistor Safe Operating Area Compensation
- TO-252 Package

Description

This monolithic integrated circuit is an adjustable 3-terminal positive voltage regulator designed to supply more than 1.0A of load current with anoutput voltage adjustable over a 1.2 to 37V. It employs internal current limiting, thermal shut-down and safe area compensation.

Absolute Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Typ	Unit
Input-Output Voltage Differential	V_I -V_O	40	V
Lead Temperature	TLEAD	230	°C
Power Dissipation	P_D	Internally limited	W
Operating Junction Temperature R ange	T_j	0~125	°C
Storage Temperature Range	T_{STG}	-65~150	°C
Temperature Coefficient of Output Voltage	△ Vo/ △ T	±0.02	%/°C



Electrical Characteristics (Ta = 25 °C)

(V_I - V_O= 5 V, I_O= 0.5 A, 0°C ≤T_J ≤+ 125°C, I_{MAX} = 1.5A,P_{DMAX} = 15W, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Line Regulation (Note1)	Rline	TA = +25°C 3V ≤V_I - V_O ≤40V	-	0.01	0.04	% / V
		3V ≤V_I - V_O ≤40V	-	0.02	0.07	
Load Regulation (Note1)	Rload	TA = +25°C, 10mA ≤I_O ≤I_{MAX} V_O < 5V V_O ≥5V	-	18 0.4	25 0.5	mV % / V_O
		10mA ≤I_O ≤I_{MAX} V_O < 5V V_O ≥5V	-	40 0.8	70 1.5	
Adjustable Pin Current	I_{ADJ}	-	-	46	100	μ A
Adjustable Pin Current Change	△ I_{ADJ}	3V ≤V_I - V_O ≤40V 10mA ≤I_O ≤I_{MAX} P_D ≤P_{MAX}	-	2.0	5	μ A
Reference Voltage	V_{REF}	3V ≤V_{IN} - V_O ≤40V 10mA ≤I_O ≤I_{MAX} P_D ≤P_{MAX}	1.20	1.25	1.30	V
Maximum Output Current	$I_{O(MAX)}$	V_I - V_O ≤15V, P_D ≤P_{MAX} V_I - V_O ≤40V, P_D ≤P_{MAX}	1.0	2.0 0.3	-	A
Ripple Rejection	RR	V_O = 10V, f = 120Hz without CADJ C_{ADJ} = 10 μ F (Note2)	66	60 75	-	dB

Note:

1. Load and line regulation are specified at constant junction temperature. Change in V_D due to heating effects must be taken into account separately. Pulse testing with low duty is used. (P_{MAX} = 15W)
2. C_{ADJ}, when used, is connected between the adjustment pin and ground.