

## Features

- Output Voltage Range: 1.2V to 37V
- Output Current In Excess of 1.5A
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

## Adjustable Voltage Regulators

## Maximum Ratings

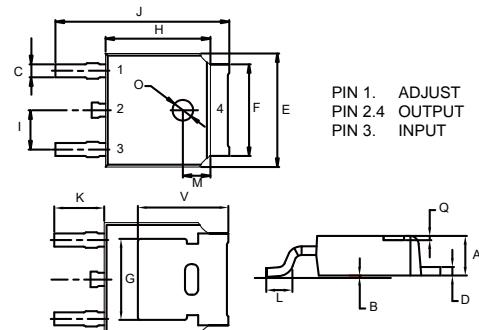
Parameter	Symbol	Value	Unit
Input –Output Voltage Differential	$V_I - V_O$	40	V
Power Dissipation	$P_D$	Internally Limited	W
Operating Junction Temperature Range	$T_{OPR}$	0~125	°C
Storage Temperature Range	$T_{STG}$	-65~125	°C
Temperature Coefficient of Output Voltage	$\Delta V_O / \Delta T$	$\pm 0.02$	%/°C

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Marking Code:LM317**

## DPAK(TO-252)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

**Electrical Characteristics @ 25°C ( $V_i-V_o=5V$ ,  $I_o=500mA$ ,  $I_{MAX}=1.5A$ ,  $P_{MAX}=20W$  Unless Otherwise Specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reference Input Voltage	$V_{ref}$	$3V \leq V_i - V_o \leq 40V, 10mA \leq I_o \leq I_{max}$	1.20	1.25	1.30	V
Load Regulation	$R_{load}$	$10mA \leq I_o \leq I_{max}, V_o < 5V$ $V_o \geq 5V$	-	18	25	mV/V
		$10mA \leq I_o \leq I_{max}, V_o < 5V$ $V_o \geq 5V$	-	0.4	0.5	mV/V
		$10mA \leq I_o \leq I_{max}, V_o < 5V$ $V_o \geq 5V$	-	40	70	mV/V
		$10mA \leq I_o \leq I_{max}, V_o < 5V$ $V_o \geq 5V$	-	0.8	1.5	mV/V
Load Regulation	$R_{line}$	$3V \leq V_i - V_o \leq 40V$	-	0.01	0.04	%/V
		$3V \leq V_i - V_o \leq 40V$	-	0.02	0.07	%/V
Adjustment Pin Current	$I_Q$		-	46	100	$\mu A$
Adjustment Pin Current Charge	$I_{q(V)}$	$V_i - V_o = 3V$ to $40V$ , $I_o = 10mA$ to $I_{max}$	-	2	5	$\mu A$
Minimun Load Current to Main Regulation	$II$	$V_i - V_o = 40V$	-	3.5	12	mA
Ripple Rejection	$RR$	$V_o = 10V$ $F = 120Hz$ , $C_{ADJ} = 10\mu F$	66	60 75	-	dB
Temperature Stability	$ST_T$		-	$0.7\% / V_o$	-	
RMS Noise, % of $V_{OUT}$	$eN$	10Hz-10kHz	-	$0.003\% / V_o$	$0.01\% / V_o$	
Longterm, $T_J = T_{HIGH}$	$ST$	$T_a = 25^\circ C$ for end point measurements, 1000HR	-	0.3%	1%	
Thermal Resistance Junction to Case	$R_{JC}$	-	-	5	-	$^\circ C/W$

## Curve Characteristics

Figure 1. Load Regulation

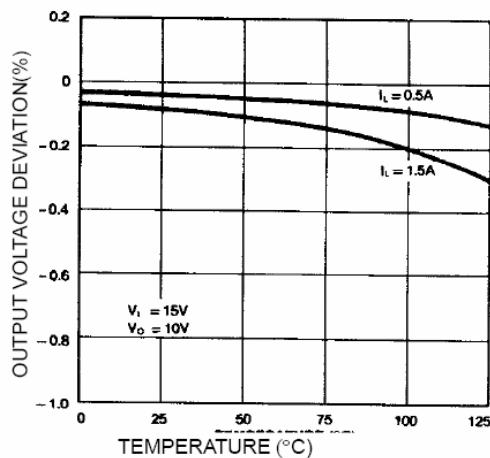


Figure 2. Adjustment Current

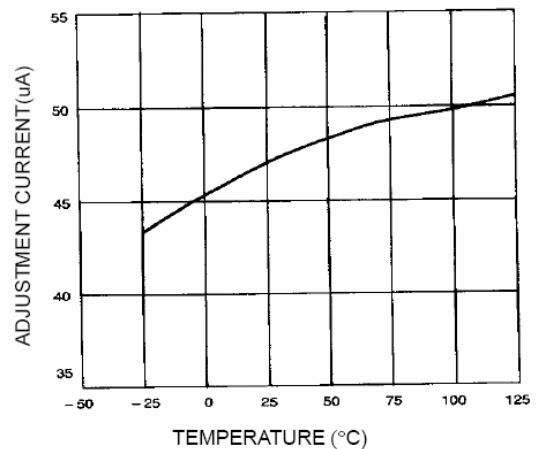


Figure 3. Dropout Voltage

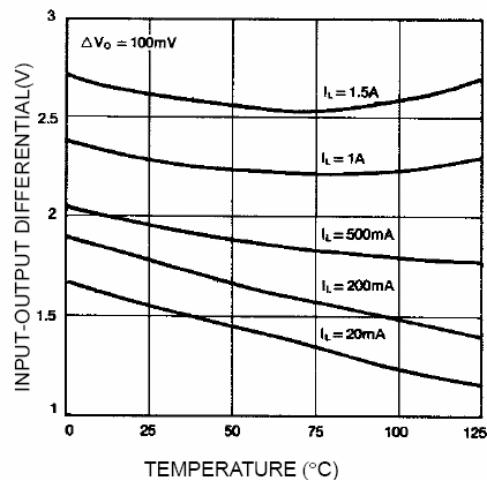
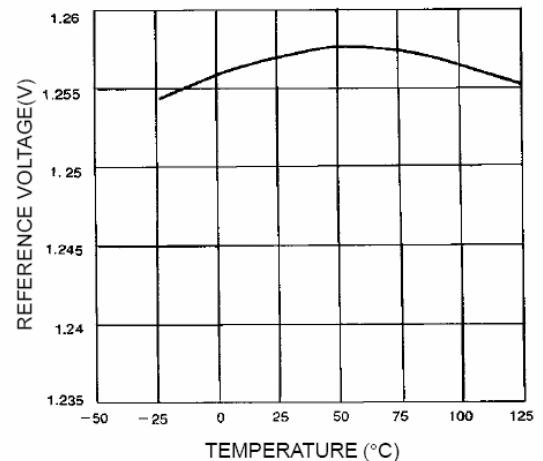


Figure 4. Reference Voltage



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel

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