

**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 Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)

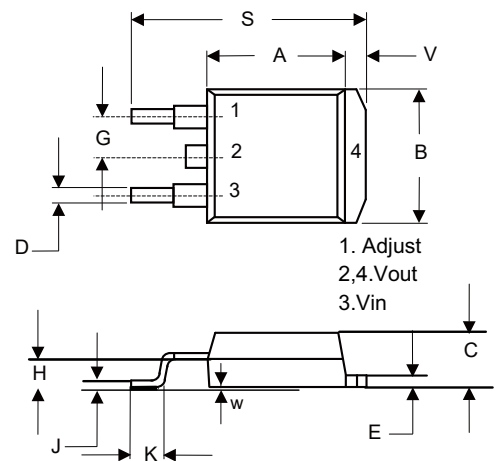
**Maximum Ratings**

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	$\Delta V_o/\Delta T$	±0.02	%/°C
Lead Temperature	$T_{LEAD}$	230	°C

**Marking Code:LM317**

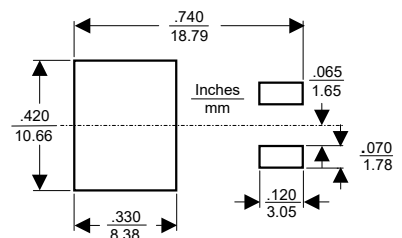
# Adjustable Voltage Regulators

## D<sup>2</sup>-PAK(TO-263)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.320	0.359	8.13	9.14	
B	0.374	0.453	9.50	11.50	
C	0.160	0.200	4.06	5.10	
D	0.020	0.038	0.51	0.96	
E	0.045	0.055	1.14	1.40	
G	0.083	0.110	2.10	2.80	
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.090	0.131	2.29	3.32	
S	0.575	0.652	14.22	16.55	
V	0.042	0.058	1.07	1.47	
W	0.000	0.008	0.00	0.20	

**Suggested Solder Pad Layout**



**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	Rload	$10mA \leq I_o \leq I_{max}$ , $V_o < 5v$	-	18	25 mV%V	mV%V
		$V_o \geq 5v$	-	0.4	0.5 mV%V	mV%V
		$10mA \leq I_o \leq I_{max}$ , $V_o < 5v$	-	40	70 mV%V	mV%V
		$V_o \geq 5v$	-	0.8	1.5 mV%V	mV%V
Load Regulation	Rline	$3V \leq V_i - V_o \leq 40V$	-	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	$\mu A$
Minimum 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	-	dB
				75		
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	-	$^\circ C/W$

## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:800pcs/Reel
Part Number-BP	Bulk: 50pcs/Box

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF  
 Adding "-HF" Suffix for Halogen Free, eg. Part Number-BP-HF

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