



# THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC

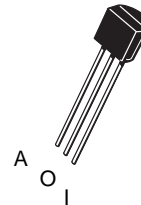
## WS317L

### ABSOLUTE MAXIMUM RATINGS

Power dissipation  
Input-Output Voltage Differential  
Operating Junction Temperature Range  
Storage Temperature  
Lead Temperature(Soldering, 4seconds)  
Output is Short Circuit Protected  
ESD rating to be determined

Internally limited  
38V  
-20°C to +85°C  
-55°C to +150°C  
260°C

TO-92      WS317LZ



### ELECTRICAL CHARACTERISTICS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Line Regulation	$3V \leq (V_{IN}-V_{OUT}) \leq 40V, I_L \leq 20mA$		0.02	0.07	%/V
Load Regulation	$5mA \leq I_{OUT} \leq 100mA$		0.3	1.5	%
Reference Voltage	$5mA \leq I_{OUT} \leq 100mA$ $P \leq 625mW$ $3V \leq (V_{IN}-V_{OUT}) \leq 40V$	1.20	1.25	1.30	V
Adjustment Pin Current			50	100	$\mu A$
Adjustment Pin Current Change	$5mA \leq I_L \leq 100mA,$ $3V \leq (V_{IN}-V_{OUT}) \leq 40V$ $P \leq 625mW$		0.2	5	$\mu A$
Minimum Load Current	$(V_{IN}-V_{OUT}) \leq 40V$ $3V \leq (V_{IN}-V_{OUT}) \leq 15V$		3.5 1.5	5 2.5	mA
Current Limit	$3V \leq (V_{IN}-V_{OUT}) \leq 13V$ $(V_{IN}-V_{OUT})=40V$	90 25	200 50	300 120	mA
RMS Output Noise % of $V_{OUT}$	$T_J=25, 10_{HZ} \leq F \leq 10K_{HZ}$		0.03		%
Ripple Rejection Ratio	$V_{OUT}=10V, F=120_{HZ}, C_{ADJ}=10F$	58	65 80		dB

- Note1:** Unless otherwise noted, these specifications apply:  $0^\circ C \leq T_J \leq 70^\circ C$  for the WS317L;  $V_{IN}-V_{OUT}=5V$  and  $I_{OUT}=40mA$ . Although power dissipation is internally limited, these specifications are applicable for power dissipation up to 625mW.  $I_{MAX}$  is 100mA
- Note2:** Regulation is measure at constant junction temperature, using pulse testing with a low duty cycle. Changes in output voltage due to heating effects are covered under the specification for thermal regulation.
- Note3:** Thermal resistance of the TO-92 package is  $180^\circ C/W$  junction to ambient with 0.4" leads from a PC board and  $160^\circ C/W$  junction to ambient with 0.125" length to a PC board