



## WS78L12 Three-terminal positive voltage regulator

### FEATURES

Maximum output current

$I_{OM}$ : 0.1A

Output voltage

$V_o$ : 12V

Continuous total dissipation

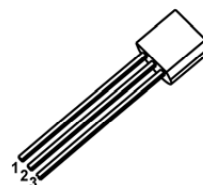
$P_D$ : 0.625W

### TO-92

1.OUT

2.GND

3.IN



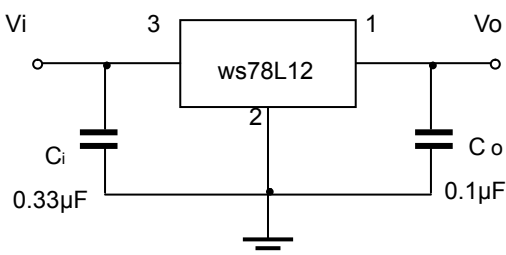
### ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Operating Junction Temperature Range	$T_{OPR}$	0-+150	°C
Storage Temperature Range	$T_{STG}$	-55-+150	°C

### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i=19V$ , $I_o=40mA$ , $C_i=0.33\mu F$ , $C_o=0.1\mu F$ , unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	$V_o$	$25^\circ C$	11.5	12	12.5	V	
		0-125°C	$14V \leq V_i \leq 27V, I_o = 1mA-40mA$	11.4	12	12.6	V
			$I_o = 1mA-70mA$	11.4	12	12.6	V
Load Regulation	$\Delta V_o$	$I_o = 1mA-100mA$	$25^\circ C$		22	100	mV
		$I_o = 1mA-40mA$	$25^\circ C$		13	50	mV
Line regulation	$\Delta V_o$	$14.5V \leq V_i \leq 27V$	$25^\circ C$		55	250	mV
		$16V \leq V_i \leq 27V$	$25^\circ C$		49	200	mV
Quiescent Current	$I_q$		$25^\circ C$		4.3	6.5	mA
Quiescent Current Change	$\Delta I_q$	$16V \leq V_i \leq 27V$	0-125°C			1.5	mA
		$1mA \leq I_o \leq 40mA$	0-125°C			0.1	mA
Output Noise Voltage	$V_N$	10Hz ≤ f ≤ 100KHz	$25^\circ C$		70		uV
Ripple Rejection	RR	$15V \leq V_i \leq 25V, f=120Hz$	0-125°C	37	42		dB
Dropout Voltage	$V_d$		$25^\circ C$		1.7		V

### TYPICAL APPLICATION



Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.