



**TO-92 Encapsulate Three-terminal Voltage Regulator**

**78L10** Three-terminal positive voltage regulator

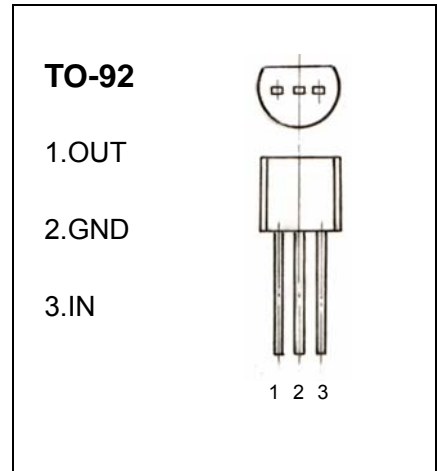
**FEATURES**

**Maximum Output current**

$I_{OM}$ : 0.1 A

**Output voltage**

$V_o$ : 10 V



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

Parameter	Symbol	Value	Units
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0—+125	°C
Storage Temperature Range	$T_{STG}$	-55—+150	°C

**ELECTRICAL CHARACTERISTICS( $V_I=16V, I_o=40mA, 0^\circ C < T_j < 125^\circ C, C_1=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$T_j=25^\circ C$	9.6	10	10.4	V
		$12V \leq V_I \leq 24V, I_o=1mA-40mA$	9.5	10	10.5	V
		$I_o=1mA-70mA$	9.5	10	10.5	V (note)
Load Regulation	$\Delta V_o$	$T_j=25^\circ C, I_o=1mA-100mA$		19	90	mV
		$T_j=25^\circ C, I_o=1mA-40mA$		11	40	mV
Line regulation	$\Delta V_o$	$12V \leq V_I \leq 24V, T_j=25^\circ C$		45	175	mV
		$13V \leq V_I \leq 24V, T_j=25^\circ C$		40	125	mV
Quiescent Current	$I_q$			4.1	6.0	mA
Quiescent Current Change	$\Delta I_q$	$13V \leq V_I \leq 24V$			1.5	mA
	$\Delta I_q$	$1mA \leq V_I \leq 40mA$			0.1	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$		58		$\mu V$
Ripple Rejection	RR	$15V \leq V_I \leq 24V, f=120Hz, T_j=25^\circ C$		45		dB
Dropout Voltage	$V_d$	$T_j=25^\circ C$		1.7		V

**TYPICAL APPLICATION**

