



TO-92 Plastic-Encapsulate Transistors

78L09 Three-terminal positive voltage regulator

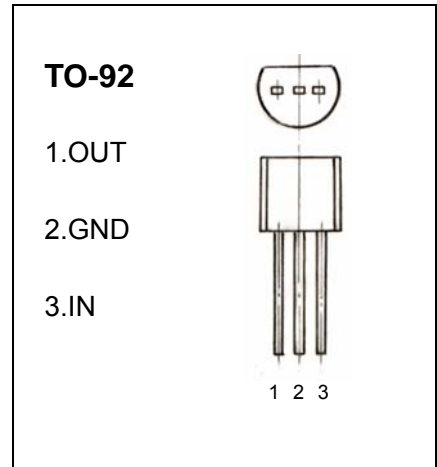
FEATURES

Maximum Output current

I_{OM} : 0.1 A

Output voltage

V_o : 9 V



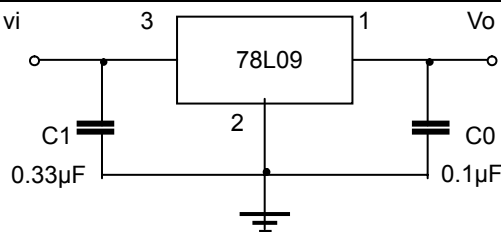
ABSOLUTE MAXIMUM RATINGS(Operating temperature range applies unless otherwise specified)

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	$T_j=25^\circ C$	8.64	9.0	9.36	V
		$12V \leq V_I \leq 24V, I_o=1mA-40mA$	8.55	9.0	9.45	V
		$I_o=1mA-70mA$	8.55	9.0	9.45	V (note)
Load Regulation	ΔV_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	ΔV_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	ΔI_q	$13V \leq V_I \leq 24V$			1.5	mA
	ΔI_q	$1mA \leq V_I \leq 40mA$			0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		58		uV
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



Note 1: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators