



TO-92 Encapsulate Three Terminal Voltage Regulator

78L09 Three-terminal positive voltage regulator

FEATURES

Maximum Output current

I_{OM} : 0.1 A

Output voltage

V_o : 9 V

Continuous total dissipation

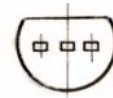
P_D : 0.625 W

TO-92

1. OUT

2. GND

3. IN



1 2 3

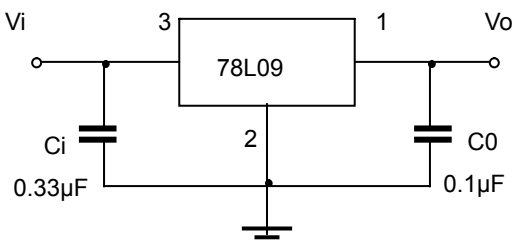
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
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 AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=16V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	8.64	9.0	9.36	V
		12V ≤ V_i ≤ 24V, $I_o=1mA-40mA$	8.55	9.0	9.45	V
		$I_o=1mA-70mA$	8.55	9.0	9.45	V
Load Regulation	ΔV_o	$I_o=1mA-100mA$		19	90	mV
		$I_o=1mA-40mA$		11	40	mV
Line regulation	ΔV_o	12V ≤ V_i ≤ 24V		45	175	mV
		13V ≤ V_i ≤ 24V		40	125	mV
Quiescent Current	I_q	25°C		4.1	6.0	mA
Quiescent Current Change	ΔI_q	13V ≤ V_i ≤ 24V			1.5	mA
	ΔI_q	1mA ≤ I_o ≤ 40mA			0.1	mA
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100KHz		58		uV
Ripple Rejection	RR	15V ≤ V_i ≤ 25V, $f=120Hz$		45		dB
Dropout Voltage	V_d	25°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.