



SOT-89-3L Encapsulate Three Terminal Voltage Regulators

78L09

Three-terminal positive voltage regulator

FEATURES

Maximum output current

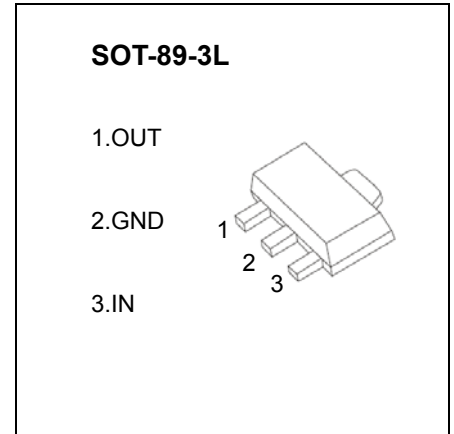
I_{OM} : 0.1 A

Output voltage

V_o : 9 V

Continuous total dissipation

P_D : 0.5W



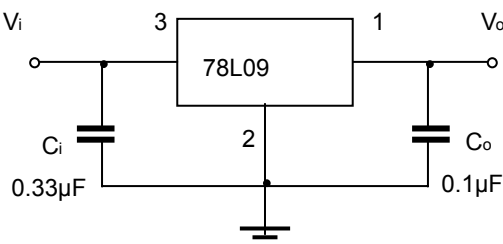
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	0d+150	°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	
		0-125°C	$12V \leq V_i \leq 24V, I_o=1mA-40mA$	8.55	9.0	9.45	V
			$I_o=1mA-70mA$	8.55	9.0	9.45	V
Load Regulation	ΔV_o	$I_o=1mA-100mA$	25°C	19	90	mV	
		$I_o=1mA-40mA$	25°C	11	40	mV	
Line regulation	ΔV_o	$12V \leq V_i \leq 24V$	25°C	45	175	mV	
		$13V \leq V_i \leq 24V$	25°C	40	125	mV	
Quiescent Current	I_q	25°C		4.1	6.0	mA	
Quiescent Current Change	ΔI_q	$13V \leq V_i \leq 24V$	0-125°C		1.5	mA	
	ΔI_q	$1mA \leq I_o \leq 40mA$	0-125°C		0.1	mA	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	25°C	58		uV	
Ripple Rejection	RR	$15V \leq V_i \leq 25V, f=120Hz$	0-125°C	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.

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