

WEJ78L09 Three-terminal positive voltage regulator

FEATURES

Maximum Output current

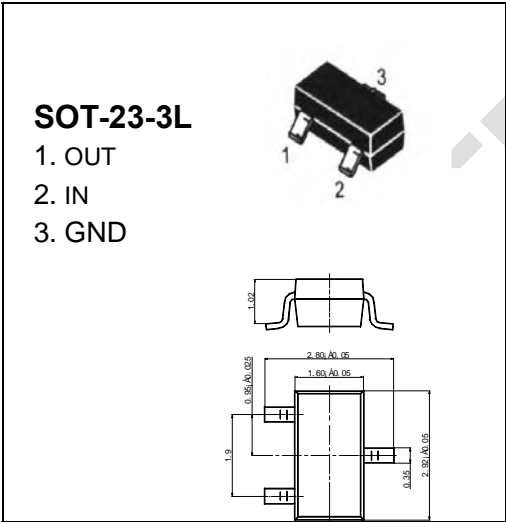
$$I_{OM}: 0.1 \text{ A}$$

Output voltage

$$V_o: 9 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



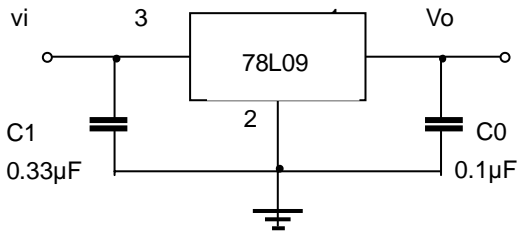
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Units
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($V_I=15\text{V}, I_o=40\text{mA}, 0^{\circ}\text{C} < T_J < 125^{\circ}\text{C}, C_1=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	$T_J=25^{\circ}\text{C}$	8.64	9.0	9.36	V
		$7\text{V} \leq V_I \leq 20\text{V}, I_o=1\text{mA} \sim 40\text{mA}$	8.55	9.0	9.45	V
		$7\text{V} \leq V_I \leq V_{MAX}, I_o=1\text{mA} \sim 70\text{mA}$	8.55	9.0	9.45	V (note)
Load Regulation	ΔV_o	$T_J=25^{\circ}\text{C}, I_o=1\text{mA} \sim 100\text{mA}$		19	90	mV
		$T_J=25^{\circ}\text{C}, I_o=1\text{mA} \sim 40\text{mA}$		11	40	mV
Line regulation	ΔV_o	$12 \text{ V} \leq V_I \leq 24\text{V}, T_J=25^{\circ}\text{C}$		45	175	mV
		$13\text{V} \leq V_I \leq 24\text{V}, T_J=25^{\circ}\text{C}$		40	125	mV
Quiescent Current	I_q			4.1	6.0	mA
Quiescent Current Change	ΔI_q	$8\text{V} \leq V_I \leq 20\text{V}$			1.5	mA
	ΔI_q	$1\text{mA} \leq V_I \leq 40\text{mA}$			0.1	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$		58		μV
Ripple Rejection	RR	$15\text{V} \leq V_I \leq 25\text{V}, f=120\text{Hz}, T_J=25^{\circ}\text{C}$		45		dB
Dropout Voltage	V_d	$T_J=25^{\circ}\text{C}$		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