



**SOT-23-3L Encapsulate Three Terminal Voltage Regulator**

**CJ78L09** Three-terminal positive voltage regulator

**FEATURES**

Maximum Output current

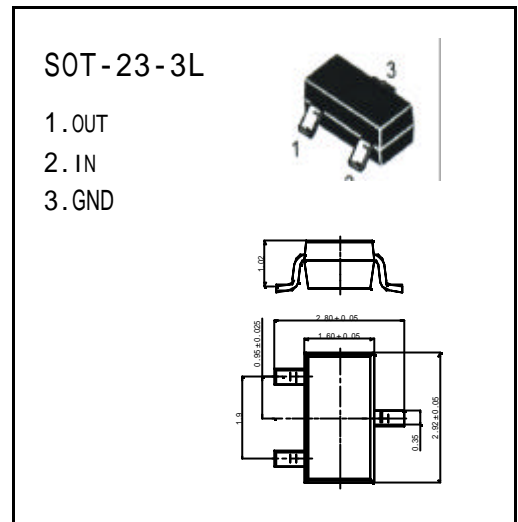
$I_{OM}$ : 0.1 A

Output voltage

$V_o$ : 9 V

Operating and storage junction temperature range

$T_J, T_{stg}$ : -55 to +150



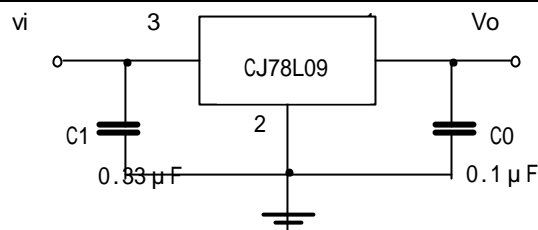
**ABSOLUTE MAXIMUM RATINGS ( Operating temperature range applies unless otherwise specified )**

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

**ELECTRICAL CHARACTERISTICS ( $V_i=15V, I_o=40mA, 0 < T_j < 125$  ,  $C_1=0.33 \mu F, C_o=0.1 \mu F$ , unless otherwise specified )**

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