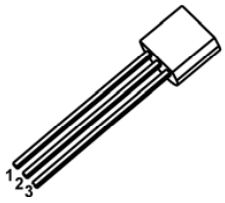
TO-92 Encapsulate Three Terminal Voltage Regulators

CJ78L09 Three-terminal positive voltage regulator

TO-92

1. OUT
2. GND
3. IN



FEATURES

Maximum Output current

I_{OM}: 0.1 A

Output voltage

V_o: 9 V

Continuous total dissipation

P_D: 0.625 W

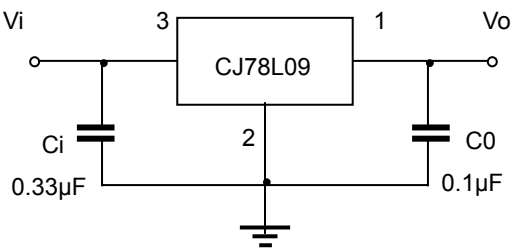
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0~+150	℃
Storage Temperature Range	T_{STG}	-55 ~ ~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=16V,Io=40mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

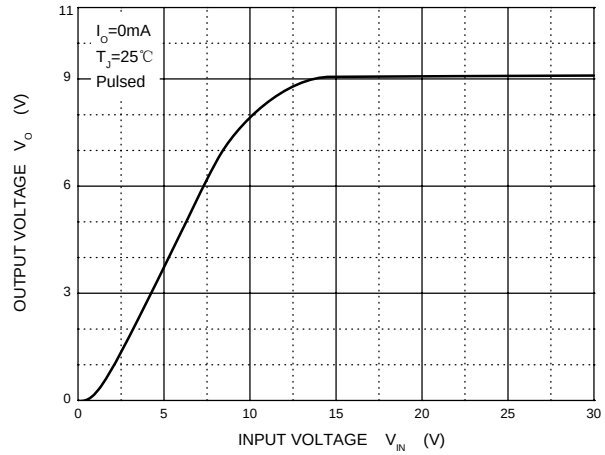
Pa rameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	Vo		25℃	8.64	9.0	9.36	V
		12V≤V_I≤24V, Io=1mA-40mA	0-125℃	8.55	9.0	9.45	V
		Io=1mA-70mA		8.55	9.0	9.45	V
Load Regulation	△Vo	Io=1mA-100mA	25℃		19	90	mV
		Io=1mA-40mA	25℃		11	40	mV
Line regulation	△Vo	12V≤V_I≤24V	25℃		45	175	mV
		13V≤V_I≤24V	25℃		40	125	mV
Quiescent Current	Iq		25℃		4.1	6.0	mA
Quiescent Current Change	△Iq	13V≤V_I≤24V	0-125℃			1.5	mA
	△Iq	1mA≤I_O≤40mA	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		58		μV
Ripple Rejection	RR	15V≤V_I≤25V,f=120Hz	0-125℃		45		dB
Dropout Voltage	Vd		25℃		1.7		V

TYPICA L APPLICATION

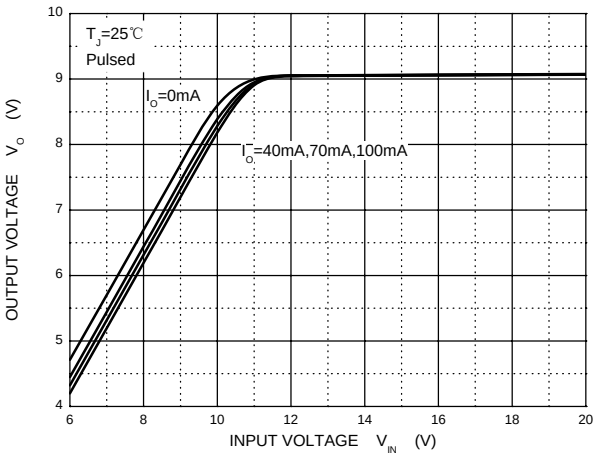


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

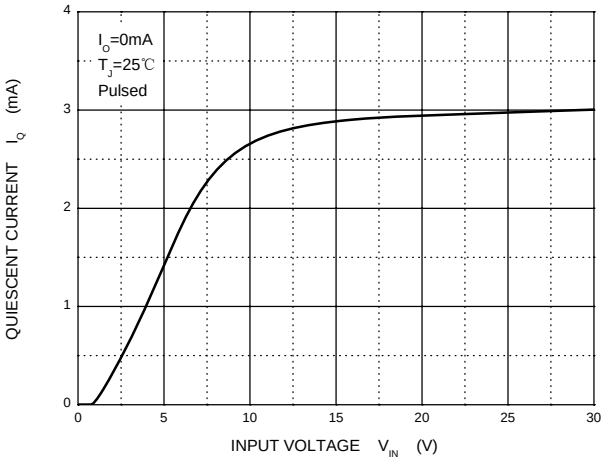
Output Characteristics



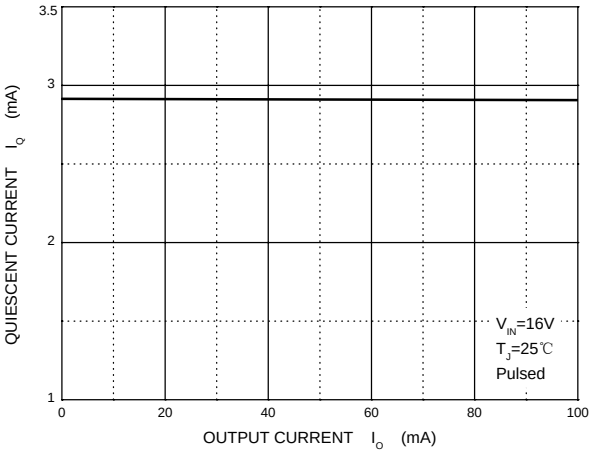
Dropout Characteristics



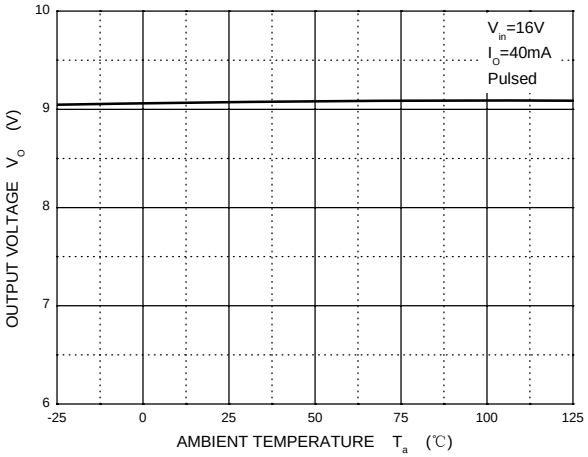
Quiescent Current vs Input Voltage



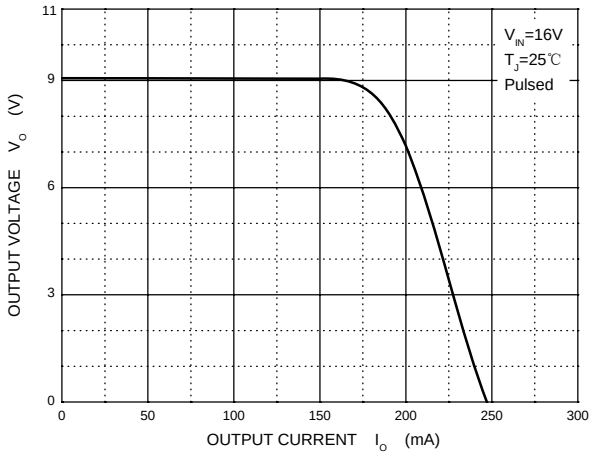
Quiescent Current vs Output Current



Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage



Power Derating Curve