HFZT

78L09

Three-terminal positive voltage regulator

FEATURES

Maximum output current IOM: 0.1A
Output voltage VO: 9V

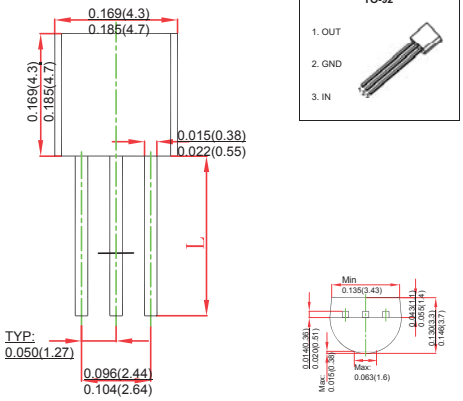
Continuous total dissipation

P_D: 0.625W (T_a = 25 ℃)

MECHANICAL DATA

- Case: TO-92 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

TO-92



ABSOLUTE MAXIMUM RATINGS

(Operating temperature range applies unless otherw ise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Thermal ˝ esistance from Junction to Ambient	$R_{\theta JA}$	160	℃/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

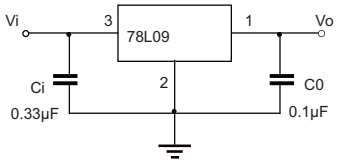
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE

(V i=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	Ꮆ-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	Ꮆ-125℃			1.5	mA
	△Iq	1mA≤I O≤40mA	Ꮆ-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		58		7V/Vo
Ripple Rejection	RR	15V≤V I≤25V,f=120Hz	Ꮆ-125℃		45		dB
Dropout Voltage	Vd		25℃		1.7		V

* Pulse test.

TYPICA L APPLICATION

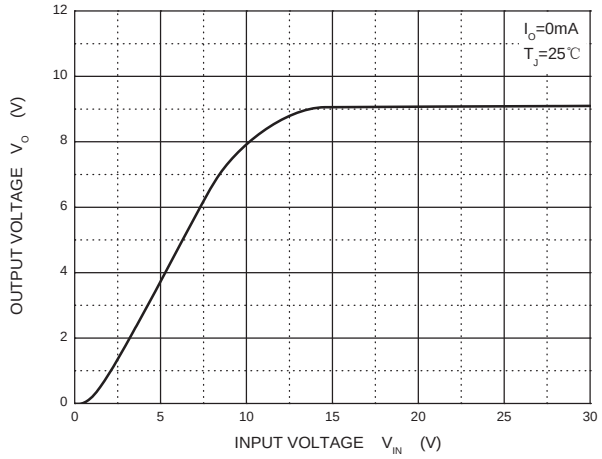


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

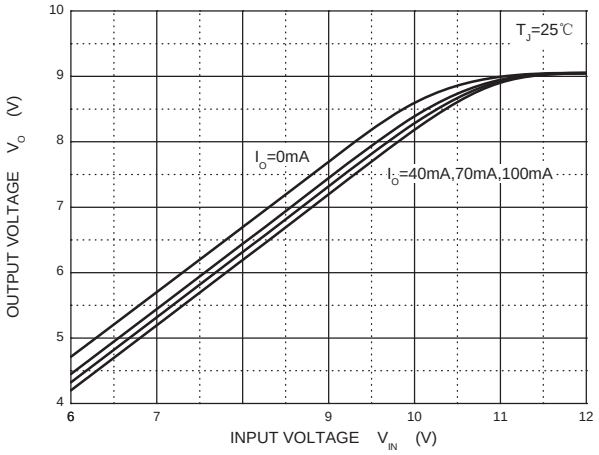
RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

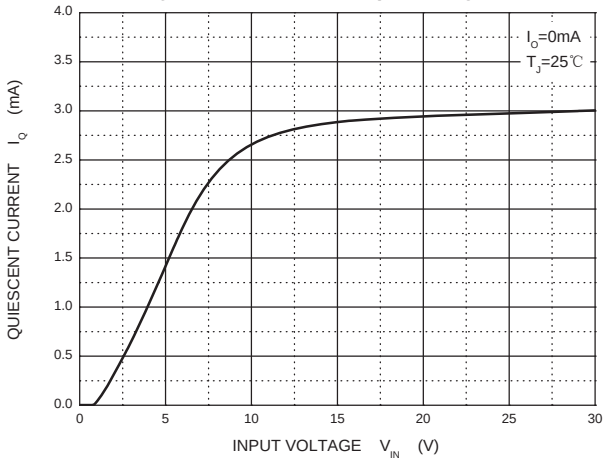
Output Characteristics



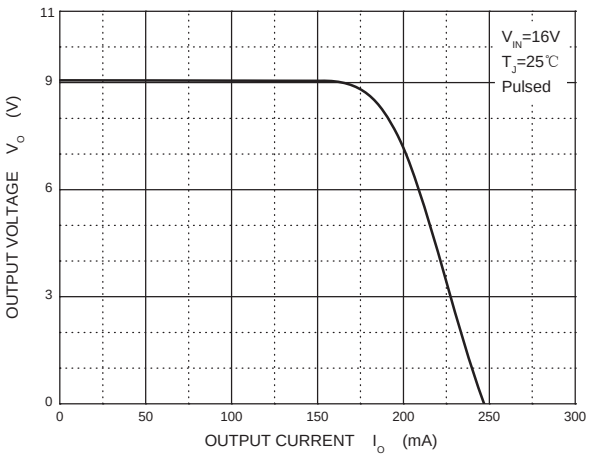
Dropout Characteristics



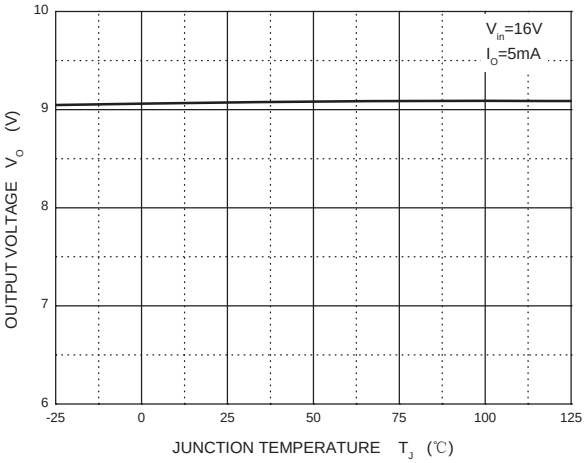
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve