

Three-terminal positive voltage regulator

FEATURES

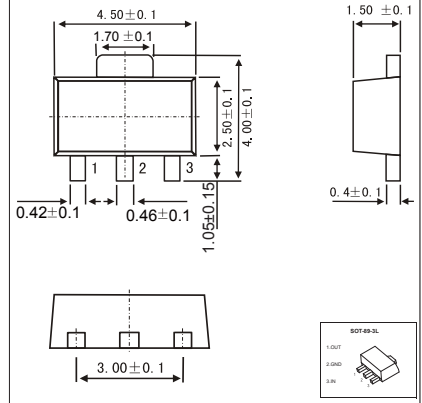
- Maximum output current I_{OM}: 0.1A
- Output voltage V_O: 8V
- Continuous total dissipation

PD: 0.6 W (T_a = 25 °C)

MECHANICAL DATA

- Case: SOT-89 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

SOT-89-3L



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Input Voltage	V _i	30	V
Thermal Resistance from Junction to Ambient	R _{θJA}	166.7	°C/W
Operating Junction Temperature Range	T _{OPR}	-25~+125	°C
Storage Temperature Range	T _{STG}	-65~+150	°C

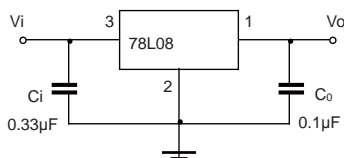
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(V_i=14V, I_o=40mA, C_i=0.33μF, C_o=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V _o	25°C	7.7	8.0	8.3	V	
		0-125°C	10.5V ≤ V _i ≤ 23V, I _o = 1mA ~ 40mA	7.6	8.0	8.4	V
			I _o = 1mA ~ 70mA	7.6	8.0	8.4	V
Load Regulation	ΔV _o	I _o = 1mA ~ 100mA	25°C	18	80	mV	
		I _o = 1mA ~ 40mA	25°C	10	40	mV	
Line regulation	ΔV _o	10.5V ≤ V _i ≤ 23V	25°C	42	175	mV	
		11V ≤ V _i ≤ 23V	25°C	36	125	mV	
Quiescent Current	I _q	25°C		4	6	mA	
Quiescent Current Change	ΔI _q	11V ≤ V _i ≤ 23V	0-125°C		1.5	mA	
		1mA ≤ I _o ≤ 40mA	0-125°C		0.1	mA	
Output Noise Voltage	V _N	10Hz ≤ f ≤ 100KHz	25°C	54		μV/V _o	
Ripple Rejection	RR	13V ≤ V _i ≤ 23V, f = 120Hz	0-125°C	37	46	dB	
Dropout Voltage	V _d	25°C		1.7		V	

* Pulse test.

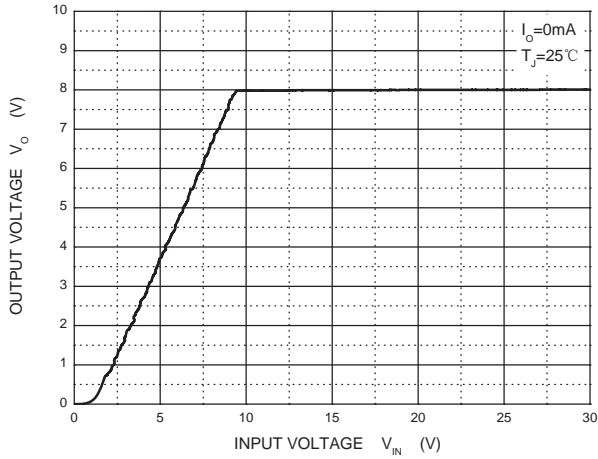
TYPICAL APPLICATION



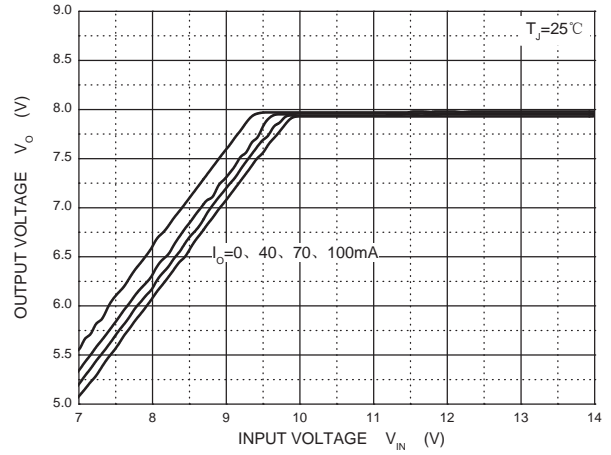
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

■ Typical Characteristics

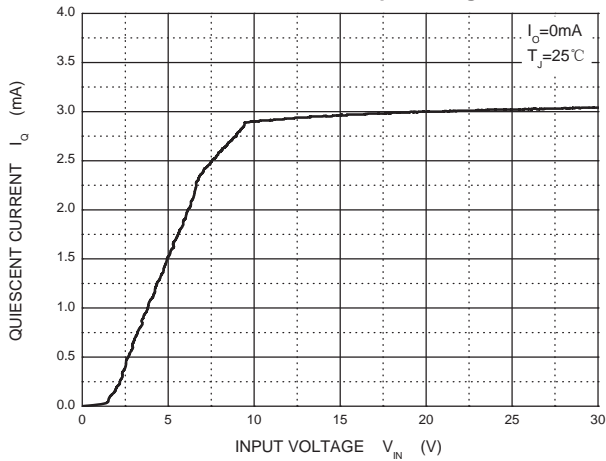
Output Characteristics



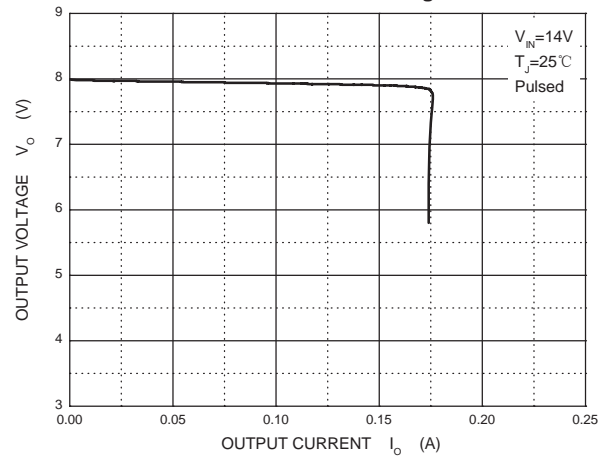
Dropout Characteristics



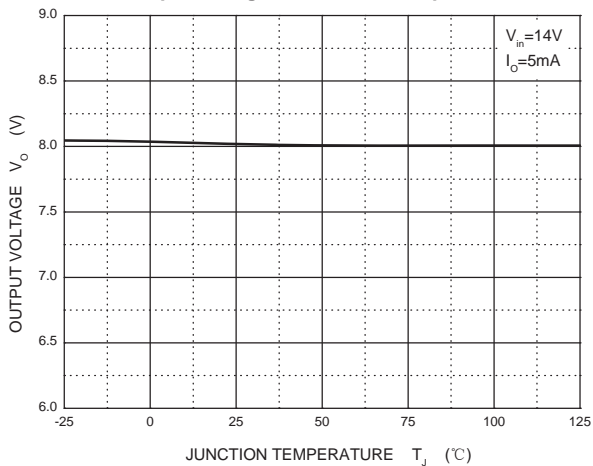
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve

