

## Three-terminal positive voltage regulator

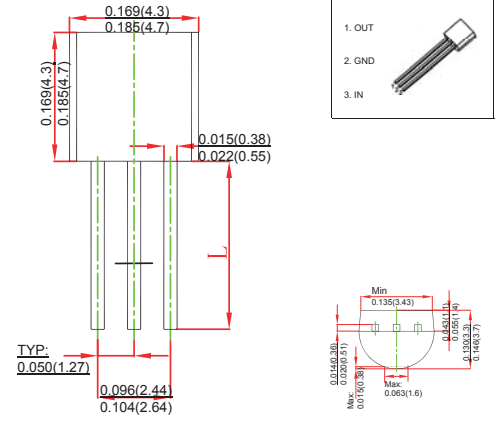
### FEATURES

- Maximum output current I<sub>OM</sub>: 0.1A
- Output voltage V<sub>O</sub>: 8V
- Continuous total dissipation  
P<sub>D</sub>: 0.625 W (T<sub>a</sub>= 25 )

### MECHANICAL DATA

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

### TO-92



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>i</sub>	30	V
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	160	°C/W
Operating Junction Temperature Range	T <sub>OPR</sub>	-25~+125	°C
Storage Temperature Range	T <sub>STG</sub>	-65~+150	°C

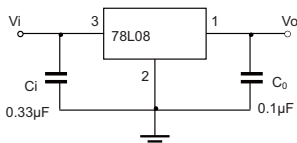
## ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(V<sub>i</sub>=14V, I<sub>o</sub>=40mA, C<sub>i</sub>=0.33 F, C<sub>o</sub>=0.1 F, unless otherwise specified)

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

\* Pulse test.

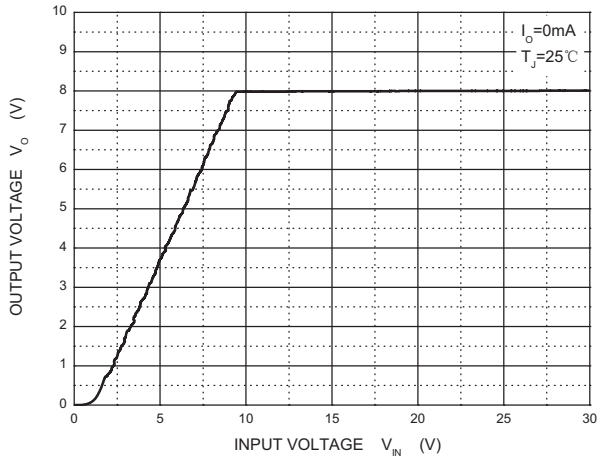
### TYPICAL APPLICATION



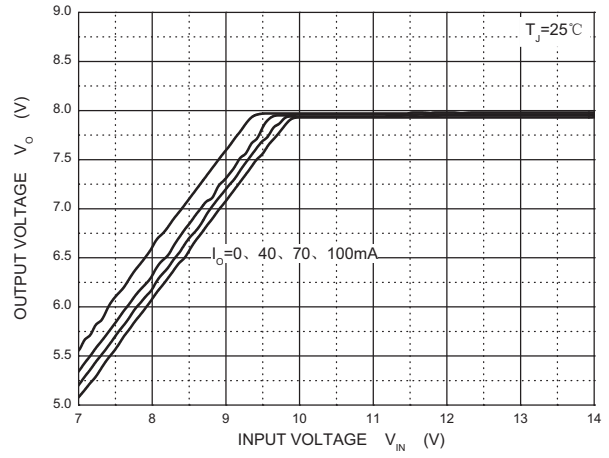
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

## Typical Characteristics

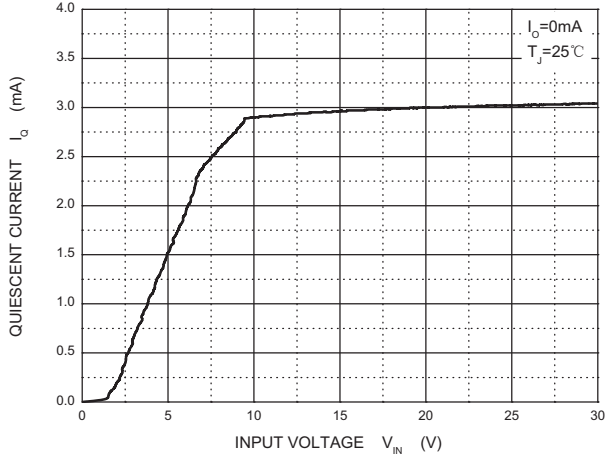
**Output Characteristics**



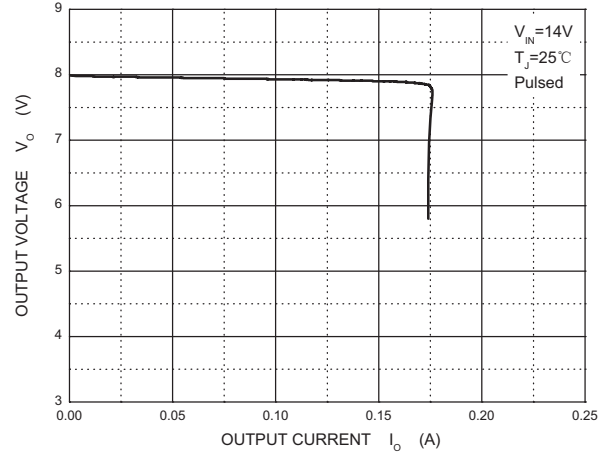
**Dropout Characteristics**



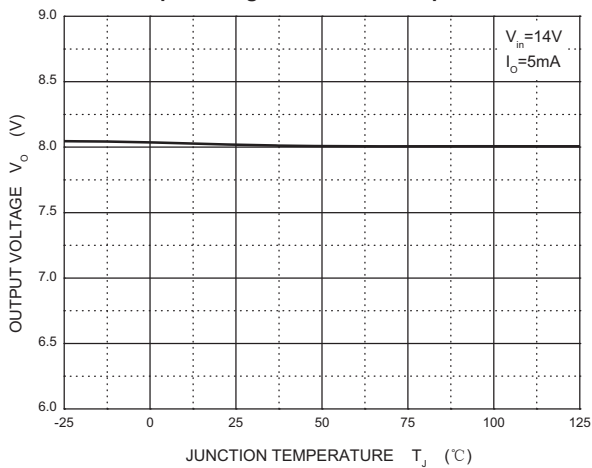
**Quiescent Current vs Input Voltage**



**Current Cut-off Grid Voltage**



**Output Voltage vs Junction Temperature**



**Power Derating Curve**

