

### Three-terminal positive voltage regulator

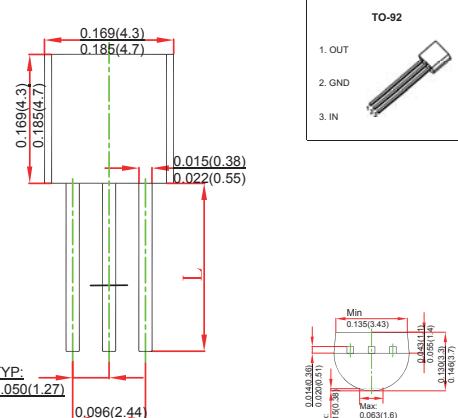
#### FEATURES

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

#### 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

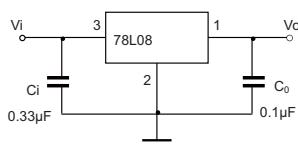
#### ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

(V<sub>i</sub>=14V, I<sub>o</sub>=40mA, C<sub>i</sub>=0.33 μF, C<sub>o</sub>=0.1 μF, 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
		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
	ΔI <sub>Q</sub>	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



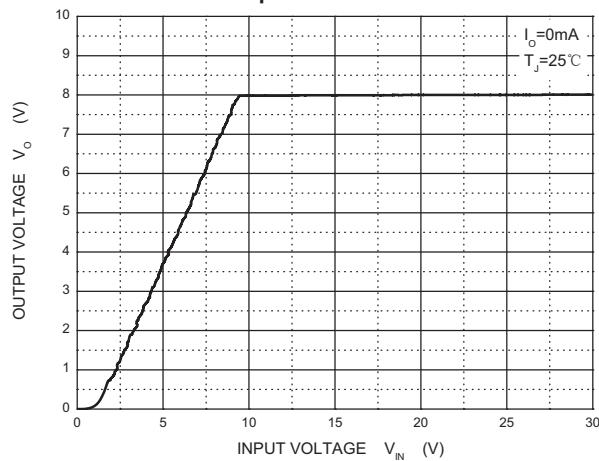
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.



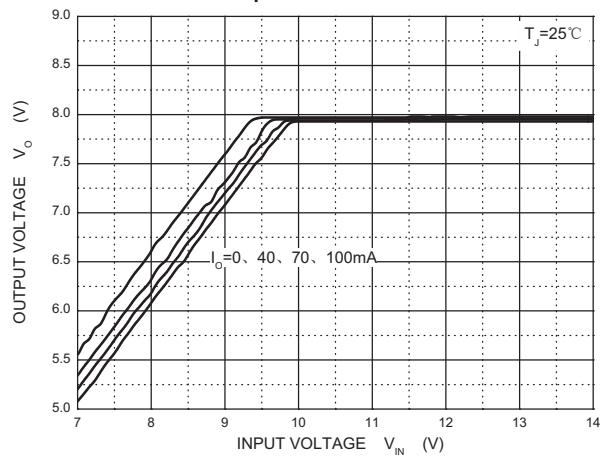
## RATINGS AND CHARACTERISTIC CURVES

### Typical Characteristics

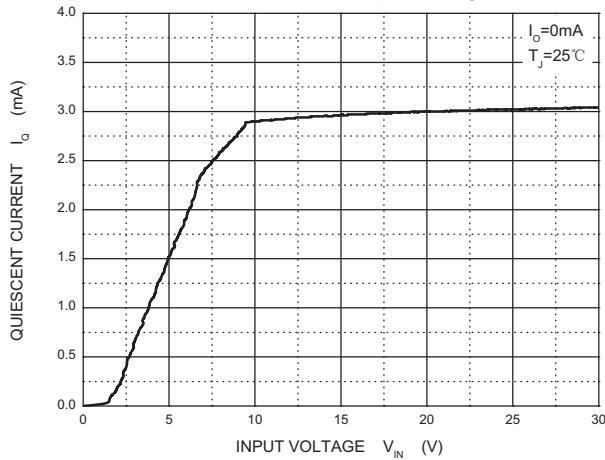
Output Characteristics



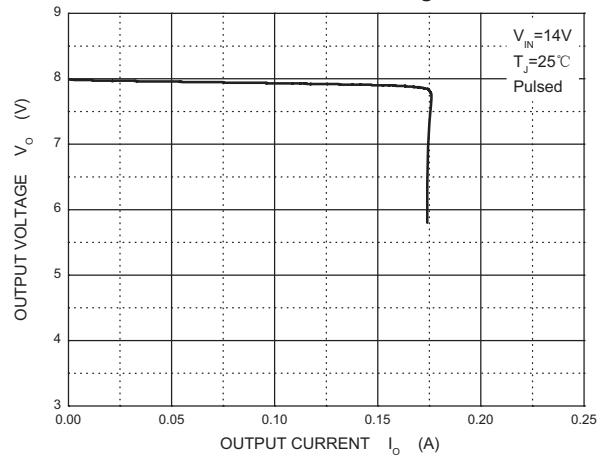
Dropout Characteristics



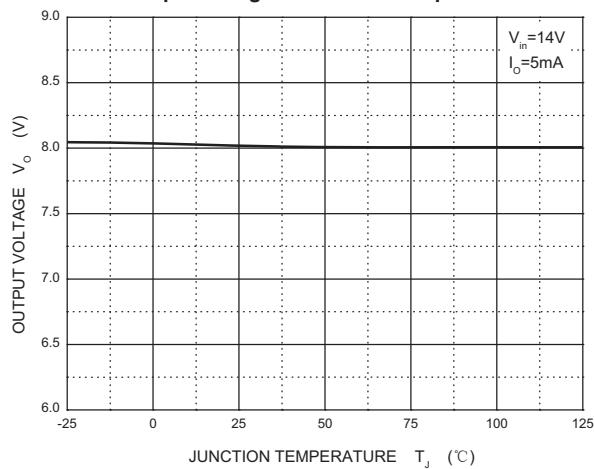
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve

