

Three-terminal positive voltage regulator

FEATURES

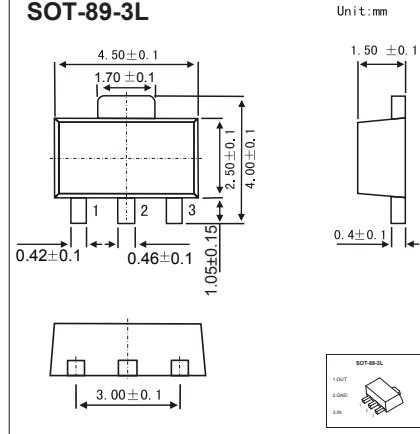
- Maximum output current IOM: 0.1A
- Output voltage VO: 6V
- Continuous total dissipation

$$P_D: 0.6\text{ W (} T_a = 25\text{ }^\circ\text{C)}$$

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)

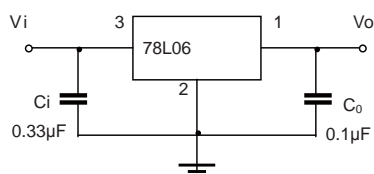
Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	°C/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	°C
Storage Temperature Range	T_{STG}	-65~+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=11\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V_o	25°C	5.75	6.0	6.25	V	
		0-125°C	$8\text{V} \leq V_i \leq 20\text{V}, I_o=1\text{mA}-40\text{mA}$	5.7	6.0	6.3	V
			$I_o=1\text{mA}-70\text{mA}$	5.7	6.0	6.3	V
Load Regulation	ΔV_o	$I_o=1\text{mA}-100\text{mA}$	25°C	16	80	mV	
		$I_o=1\text{mA}-40\text{mA}$	25°C	9	40	mV	
Line regulation	ΔV_o	$8\text{V} \leq V_i \leq 20\text{V}$	25°C	35	175	mV	
		$9\text{V} \leq V_i \leq 20\text{V}$	25°C	29	125	mV	
Quiescent Current	I_q	25°C		3.9	6.0	mA	
Quiescent Current Change	ΔI_q	$9\text{V} \leq V_i \leq 20\text{V}$	0-125°C		1.5	mA	
	ΔI_q	$1\text{mA} \leq I_o \leq 40\text{mA}$	0-125°C		0.1	mA	
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100KHz	25°C	46		μV/V _o	
Ripple Rejection	RR	$9\text{V} \leq V_i \leq 19\text{V}, f=120\text{Hz}$	0-125°C	40	48	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

