

## Three-terminal positive voltage regulator

### FEATURES

Maximum Output current  $I_O$ : 0.1 A

Output voltage  $V_O$ : 6 V

Continuous total dissipation  $P_D$ : 0.35 W ( $T_a = 25^\circ\text{C}$ )



### ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies)

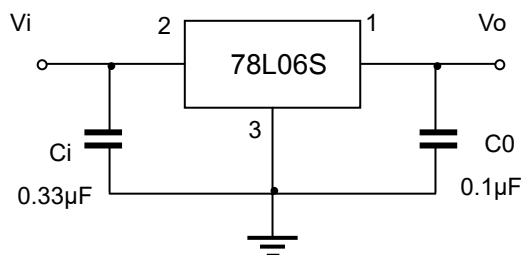
Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0-150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65-150	$^\circ\text{C}$

### 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	$V_o$	$25^\circ\text{C}$	5.75	6.0	6.25	V	
		$8\text{V } V_i, 20\text{V}, I_o=1\text{mA}\sim 40\text{mA}$	0-125 $^\circ\text{C}$	5.7	6.0	6.3	V
		$I_o=1\text{mA}\sim 70\text{mA}$		5.7	6.0	6.3	V
Load Regulation	$V_o$	$I_o=1\text{mA}\sim 100\text{mA}$	$25^\circ\text{C}$	16	80	mV	
		$I_o=1\text{mA}\sim 70\text{mA}$	$25^\circ\text{C}$	9	40	mV	
Line regulation	$V_o$	$8\text{V } V_{i1}, 20\text{V}$	$25^\circ\text{C}$	35	175	mV	
		$9\text{V } V_i, 20\text{V}$	$25^\circ\text{C}$	29	125	mV	
Quiescent Current	$I_q$		$25^\circ\text{C}$	3.9	6	mA	
Quiescent Current Change	$I_q$	$9\text{V } V_i, 20\text{V}$	0-125 $^\circ\text{C}$		1.5	mA	
		$1\text{mA } I_o, 40\text{mA}$	0-125 $^\circ\text{C}$		0.1	mA	
Output Noise Voltage	$V_N$	10Hz f 100KHz	$25^\circ\text{C}$	46		$\mu\text{V}$	
Ripple Rejection	RR	$9\text{V } V_i, 19\text{V}, f=120\text{Hz}$	0-125 $^\circ\text{C}$	40	48	dB	
Dropout Voltage	$V_d$		$25^\circ\text{C}$	1.7		V	

\* Pulse test.

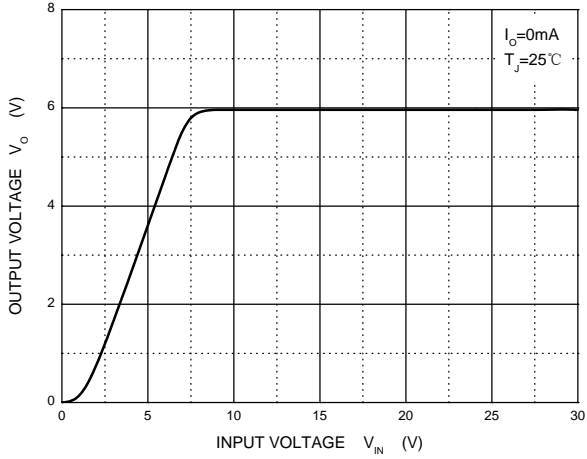
### TYPICAL APPLICATION



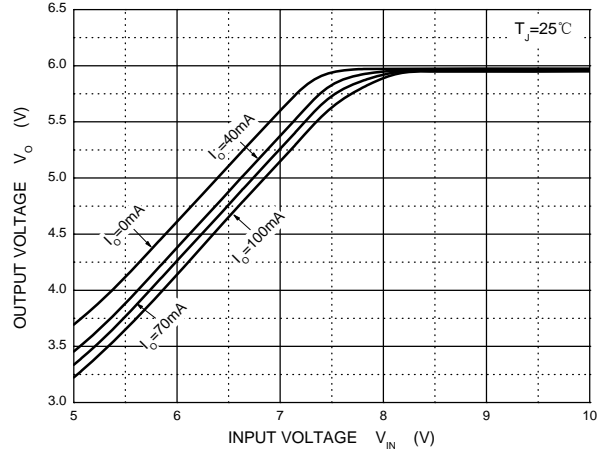
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

## Typical Characteristics

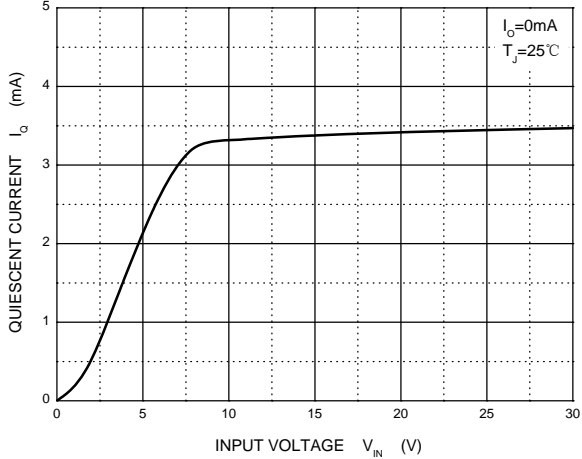
**Output Characteristics**



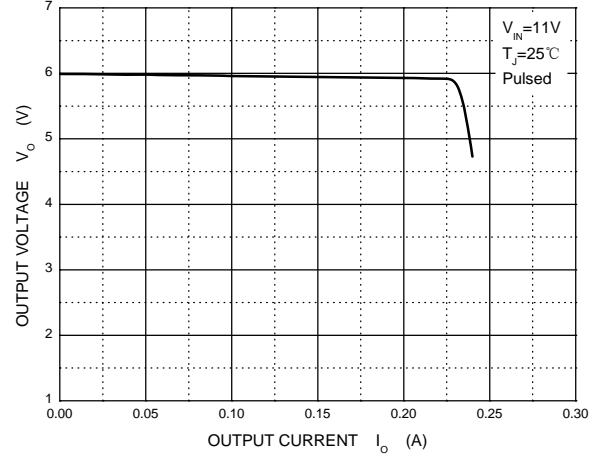
**Dropout Characteristics**



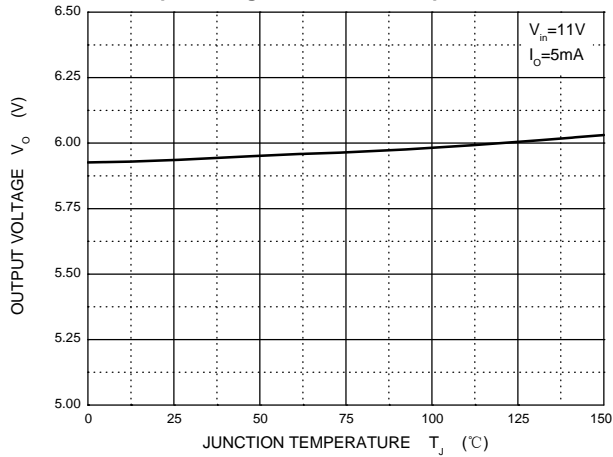
**Quiescent Current**



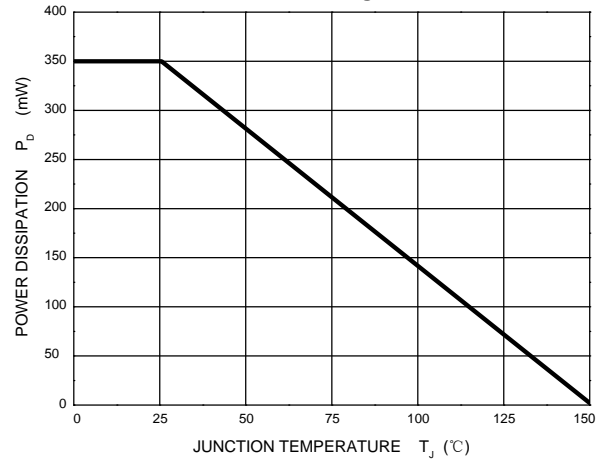
**Current Cut-off Grid Voltage**



**Output Voltage vs Junction Temperature**



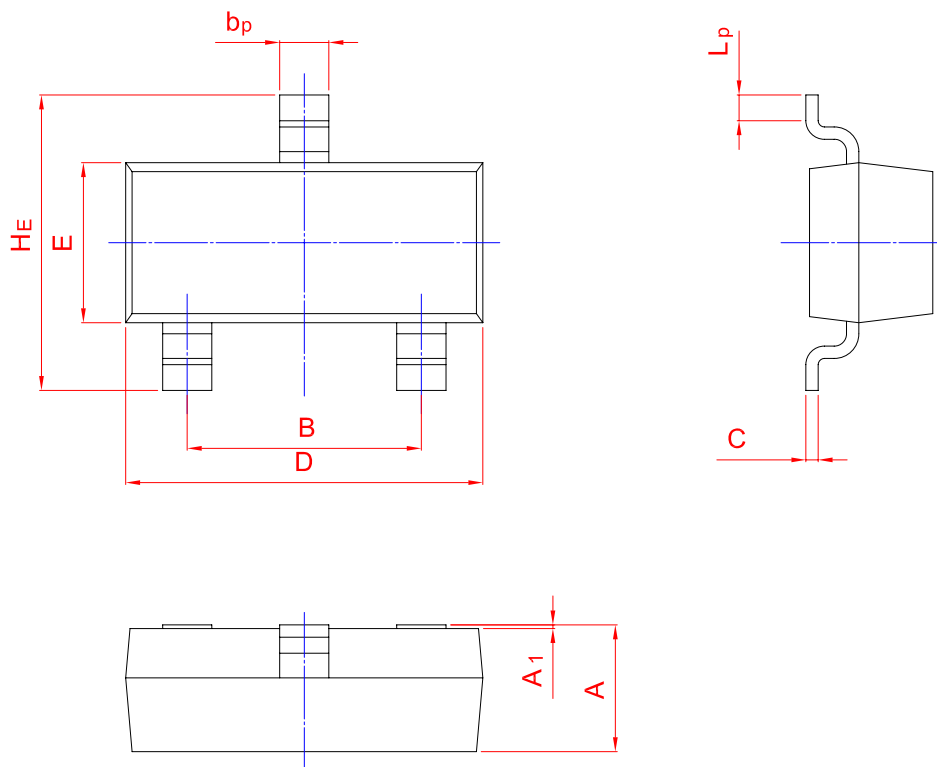
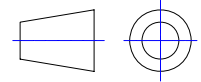
**Power Derating Curve**



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A <sub>1</sub>	L <sub>p</sub>
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

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