

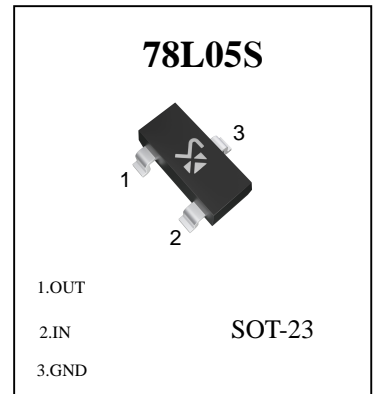
Three-terminal positive voltage regulator

## FEATURES

Maximum Output current  $I_O$ : 0.1 A

Output voltage  $V_O$ : 5 V

Continuous total dissipation  $P_D$ : 0.25 W ( $T_a = 25^\circ\text{C}$ )



## ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies)

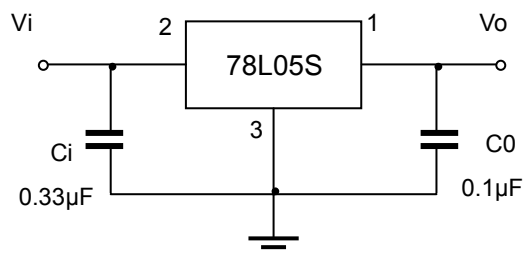
Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	-40~+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65-150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i=10\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified )

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$T_j=25^\circ\text{C}$	4.8	5.0	5.2	V
		7V $V_i$ 20V, $I_o=1\text{mA}\sim 40\text{mA}$	4.75	5.0	5.25	V
		$I_o=1\text{mA}\sim 70\text{mA}$	4.75	5.0	5.25	V
Load Regulation	$V_o$	$I_o=1\text{mA}\sim 100\text{mA}$ , $T_j=25^\circ\text{C}$		15	60	mV
		$I_o=1\text{mA}\sim 40\text{mA}$ , $T_j=25^\circ\text{C}$		8	30	mV
Line regulation	$V_o$	7V $V_i$ 20V		32	150	mV
		8V $V_i$ 20V, $T_j=25^\circ\text{C}$		26	100	mV
Quiescent Current	$I_q$	$T_j=25^\circ\text{C}$		3.8	6	mA
Quiescent Current Change	$I_q$	8V $V_i$ 20V			1.5	mA
	$I_q$	1mA $V_i$ 40mA			0.1	mA
Output Noise Voltage	$V_N$	10Hz $f$ 100KHz, $T_j=25^\circ\text{C}$		42		$\mu\text{V}$
Ripple Rejection	RR	8V $V_i$ 20V, $f=120\text{Hz}$	41	49		dB
Dropout Voltage	$V_d$	$T_j=25^\circ\text{C}$		1.7		V

\* Pulse test.

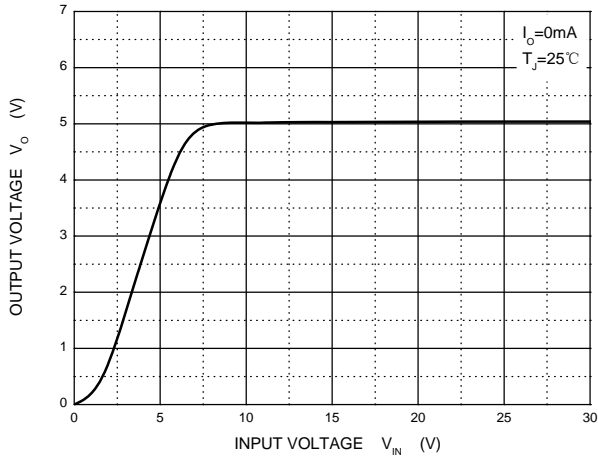
## TYPICAL APPLICATION



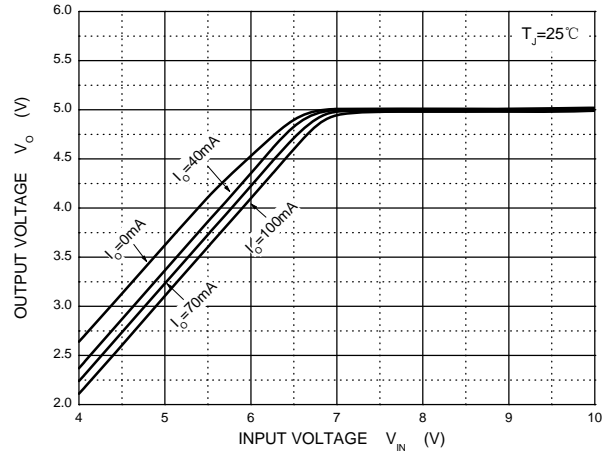
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

## Typical Characteristics

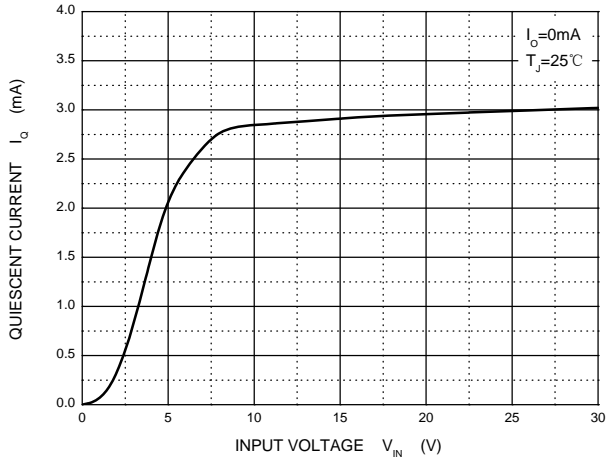
**Output Characteristics**



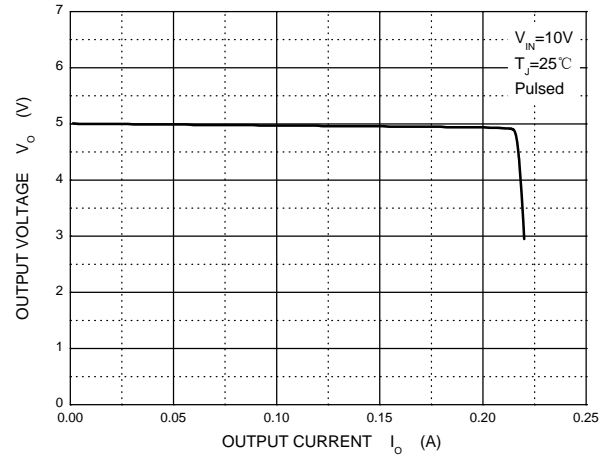
**Dropout Characteristics**



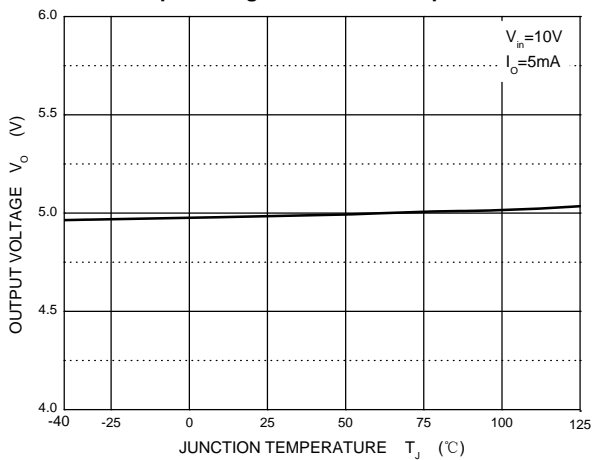
**Quiescent Current vs Input Voltage**



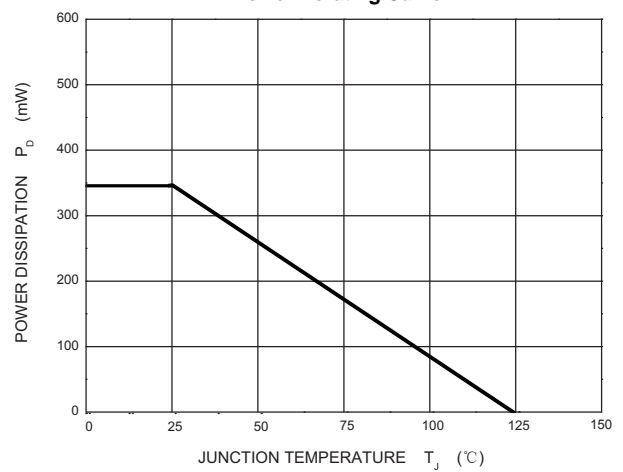
**Current Cut-off Grid Voltage**



**Output Voltage vs Junction Temperature**



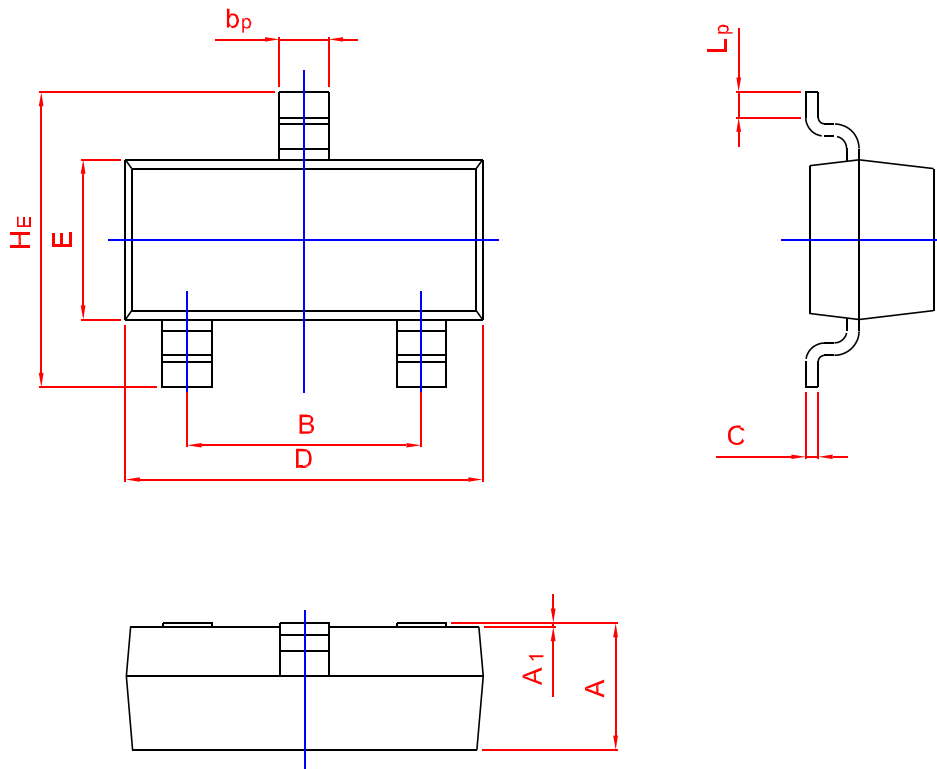
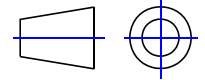
**Power Derating Curve**



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
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