78L08S

Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_O: 0.1 A

Output voltage V_O: 8 V

Continuous total dissipation P_D:0.35 W (Ta =25 ℃)

78L08S

1.OUT
2.IN
3.GND

SOT-23

ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies)

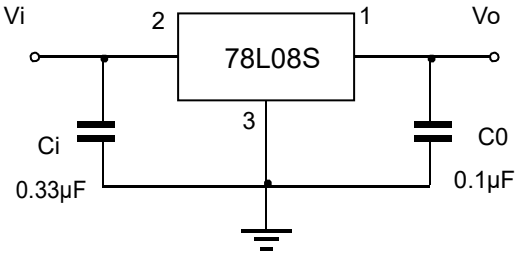
Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0-125	℃
Storage Temperature Range	T_{STG}	-65-150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (Vi=10V,Io=40mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	Vo		25 ℃	7.7	8.0	8.3	V
		10.5V≤V_I≤23V, Io=1mA~40mA	0-125 ℃	7.6	8.0	8.4	V
		Io=1mA~70mA		7.6	8.0	8.4	V
Load Regulation	ΔVo	Io=1mA~100mA	25 ℃		18	80	mV
		Io=1mA~40mA	25 ℃		10	40	mV
Line regulation	ΔVo	10.5V≤V_I≤23V	25 ℃		42	175	mV
		11V≤V_I≤23V	25 ℃		36	125	mV
Quiescent Current	Iq		25 ℃		4	6	mA
Quiescent Current Change	ΔIq	11V≤V_I≤23V	0-125 ℃			1.5	mA
	ΔIq	1mA≤I_O≤40mA	0-125 ℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25 ℃		54		uV
Ripple Rejection	RR	13V≤V_I≤23V,f=120Hz	0-125 ℃	37	46		dB
Dropout Voltage	Vd		25 ℃		1.7		V

* Pulse test.

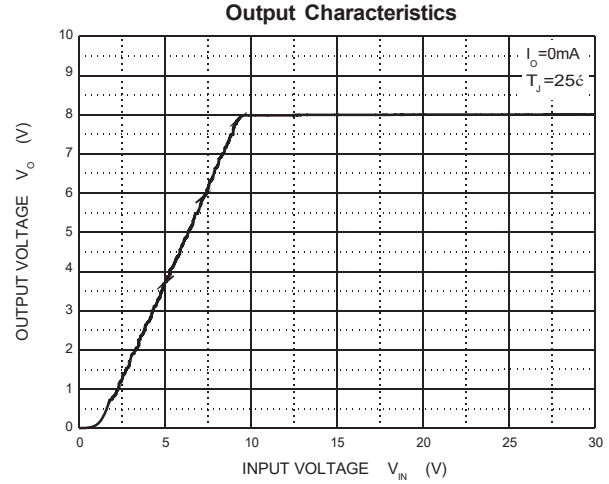
TYPICAL APPLICATION



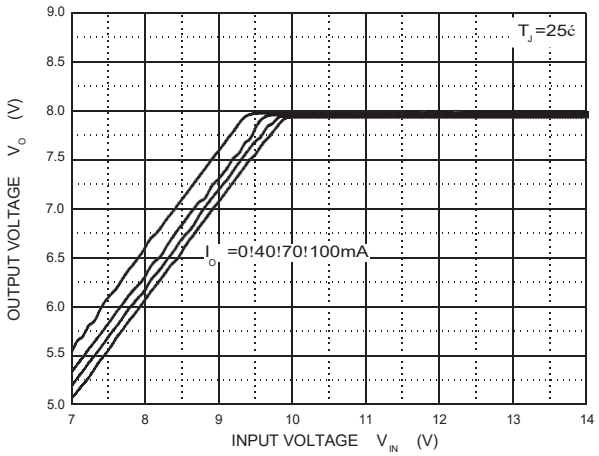
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

Typical Characteristics

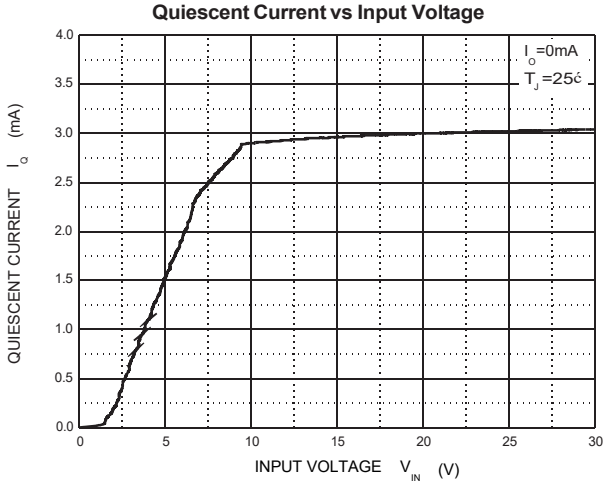
Output Characteristics



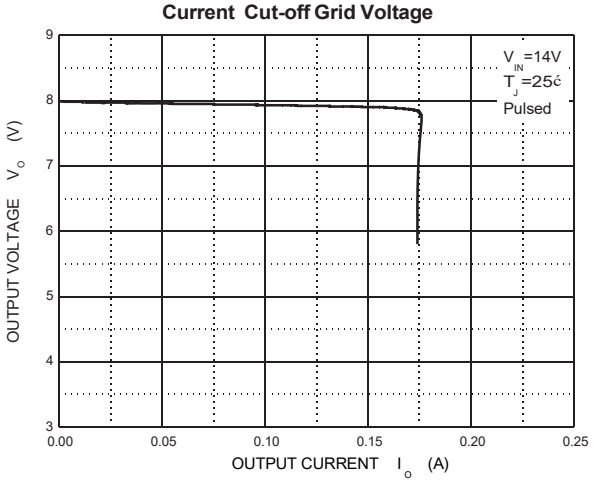
Dropout Characteristics



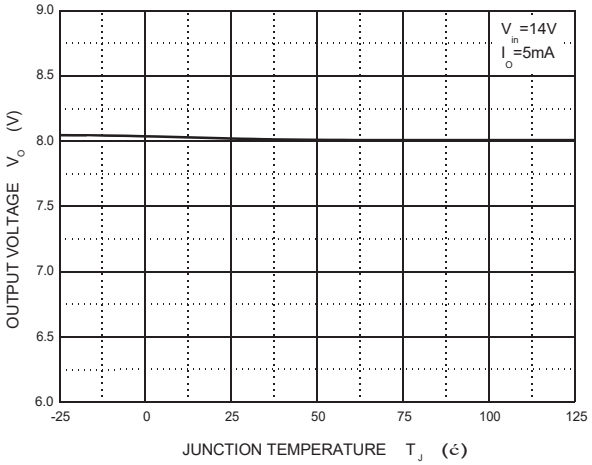
Quiescent Current vs Input Voltage



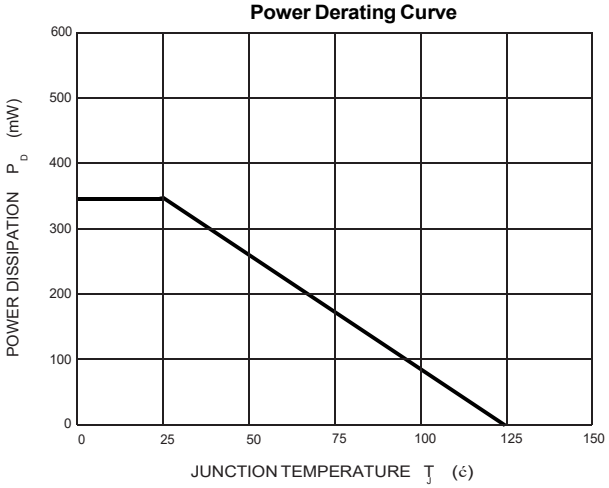
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

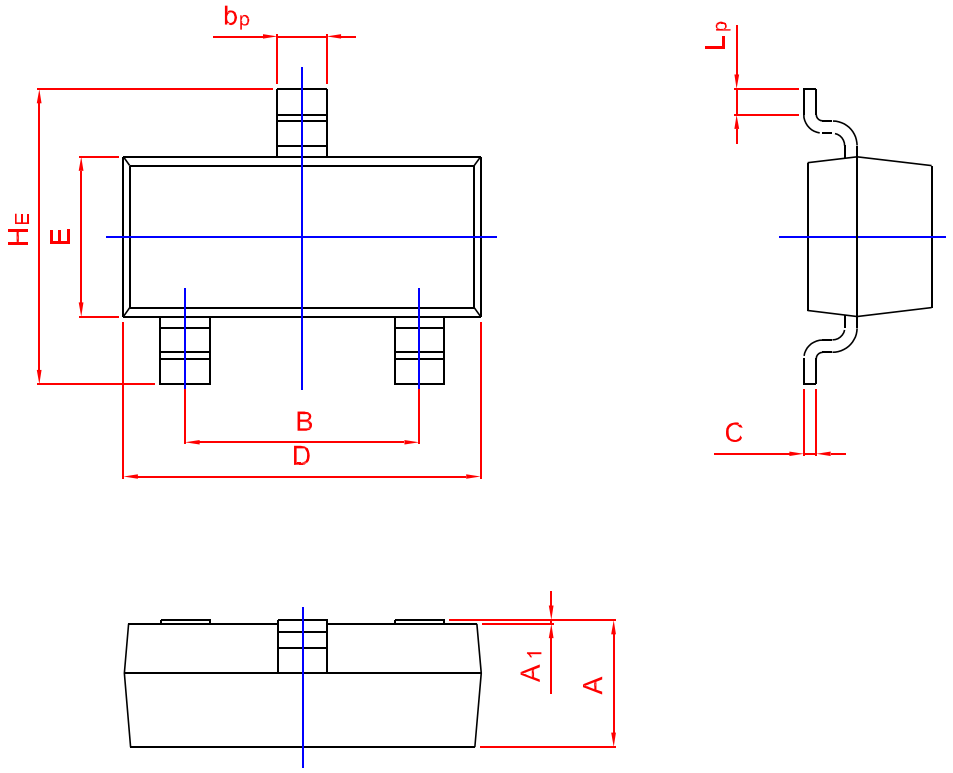


Power Derating Curve



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20