78L12

Three-terminal positive voltage regulator

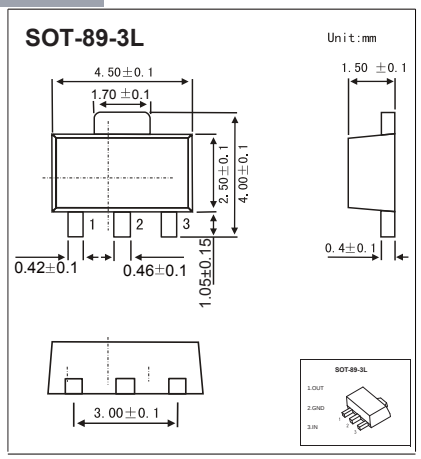
FEATURES

- Maximum output current IOM: 0.1A
- Output voltage VO: 12V
- Continuous total dissipation

P_D: 0.6 W (T_a = 25 ℃)

MECHANICAL DATA

- Case: SOT-89 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

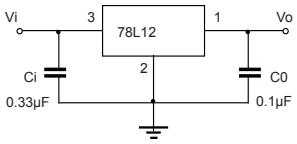
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE
(Vi=19V, Io=40mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

Pa rameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	11.5	12	12.5	V
		14V≤V_I≤27V, Io=1mA-40mA	0-125℃	11.4	12	12.6	V
		Io=1mA-70mA		11.4	12	12.6	V
Load Regulation	△Vo	Io=1mA-100mA	25℃		22	100	mV
		Io=1mA-40mA	25℃		13	50	mV
Line regulation	△Vo	14.5V≤V_I≤27V	25℃		55	250	mV
		16V≤V_I≤27V	25℃		49	200	mV
Quiescent Current	Iq		25℃		4.3	6.5	mA
Quiescent Current Change	△Iq	16V≤V_I≤27V	0-125℃			1.5	mA
	△Iq	1mA≤I_O≤40mA	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		70		μV/Vo
Ripple Rejection	RR	15V≤V_I≤25V,f=120Hz	0-125℃	37	42		dB
Dropout Voltage	Vd		25℃		1.7		V

* Pulse test.

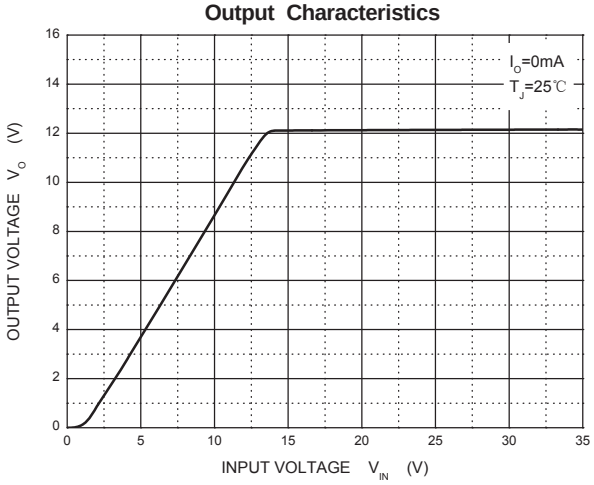
TYPICA L APPLICATION



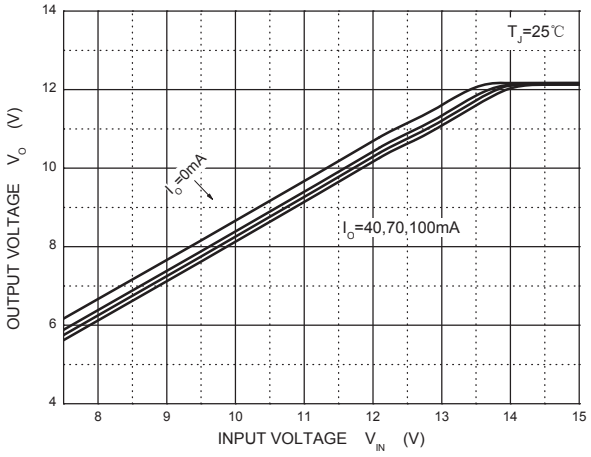
Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

■ Typical Characteristics

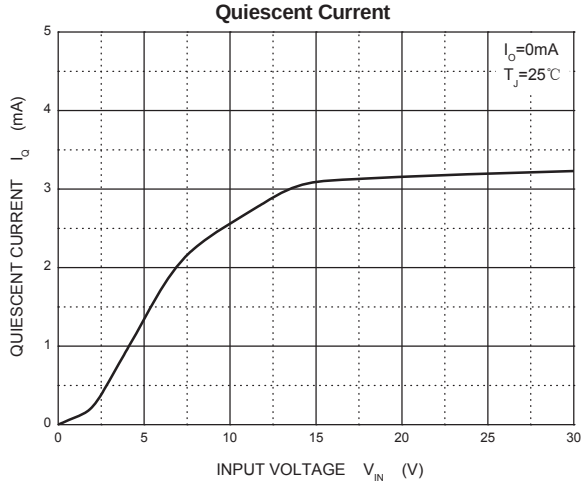
Output Characteristics



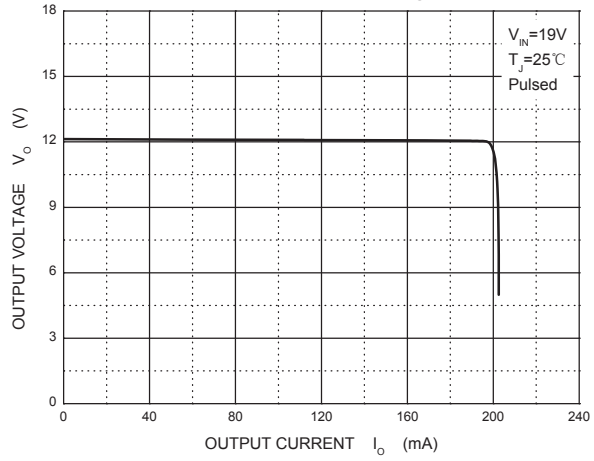
Dropout Characteristics



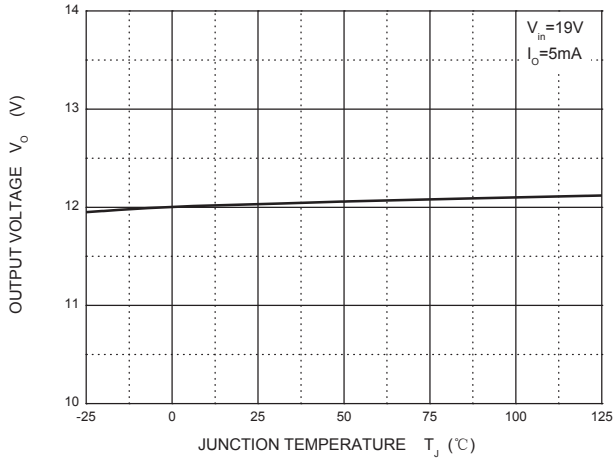
Quiescent Current



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve