

Three-terminal positive voltage regulator

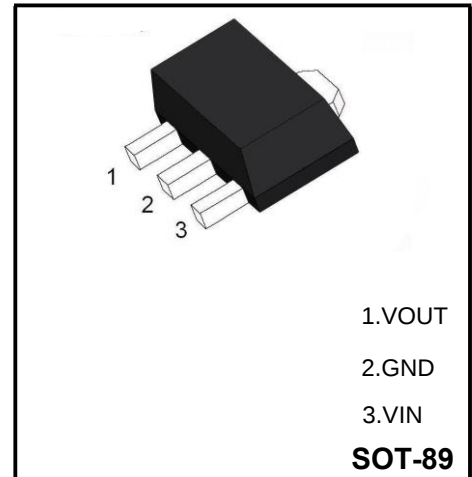
Plastic-Encapsulate Voltage Regulators

FEATURES

- Maximum output current I_{OM} : 0.1A
- Output voltage V_o : 12V
- Continuous total dissipation P_D : 0.6W ($T_a=25^\circ\text{C}$)

MECHANICAL DATA

- Case: SOT-89
- Epoxy UL: 94V-0
- Mounting Position: Any



Marking Code

78L12SI

YFW 78L12

Absolute Maximum Ratings

(Operating temperature Range applies unless otherwise specified.)

Parameters	Symbol	Value	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{opr}	-25-+125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65-+150	$^\circ\text{C}$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	$^\circ\text{C/W}$

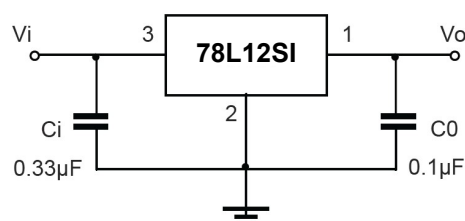
Electrical Characteristics at Specified Virtual Junction Temperature

($V_i=19\text{V}$, $I_o=40\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified.)

Parameter	Test Condition		Symbols	Min	Typ	Max	Unit
Output Voltage		25°C		11.5	12	12.5	V
	$14\text{V} \leq V_i \leq 27\text{V}, I_o=1\text{mA} \sim 40\text{mA}$	$0-125^\circ\text{C}$	V_o	11.4	12	12.6	V
	$I_o=1\text{mA} \sim 70\text{mA}$			11.4	12	12.6	V
Load Regulation	$I_o=1\text{mA} \sim 100\text{mA}$	25°C	ΔV_o		22	100	mV
	$I_o=1\text{mA} \sim 40\text{mA}$	25°C			13	50	mV
Line Regulation	$14.5\text{V} \leq V_i \leq 27\text{V}$	$0-125^\circ\text{C}$	ΔV_o		55	250	mV
	$16\text{V} \leq V_i \leq 27\text{V}$	25°C			49	200	mV
Quiescent Current		25°C	I_q		4.3	6.5	mA
Quiescent Current Change	$16\text{V} \leq V_i \leq 27\text{V}$	$0-125^\circ\text{C}$	ΔI_q			1.5	mA
	$1\text{mA} \leq I_o \leq 40\text{mA}$	$0-125^\circ\text{C}$	ΔI_q			0.1	mA
Output Noise Voltage	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	V_n		70		$\mu\text{V}/V_o$
Ripple Rejection	$15\text{V} \leq V_i \leq 25\text{V}, f=120\text{Hz}$	25°C	RR	37	42		dB
Dropout Voltage		25°C	V_d		1.7		V

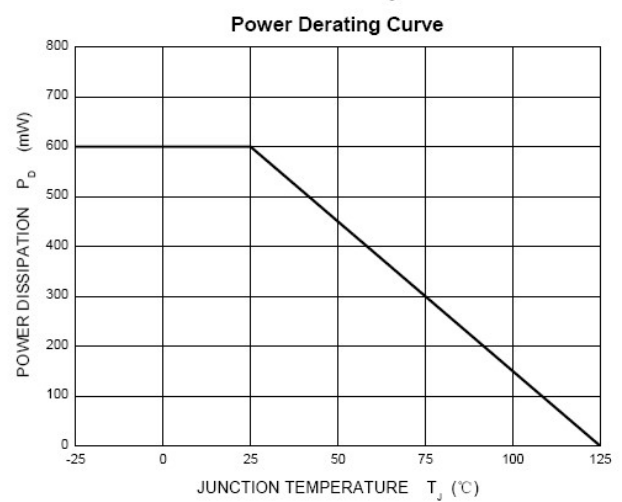
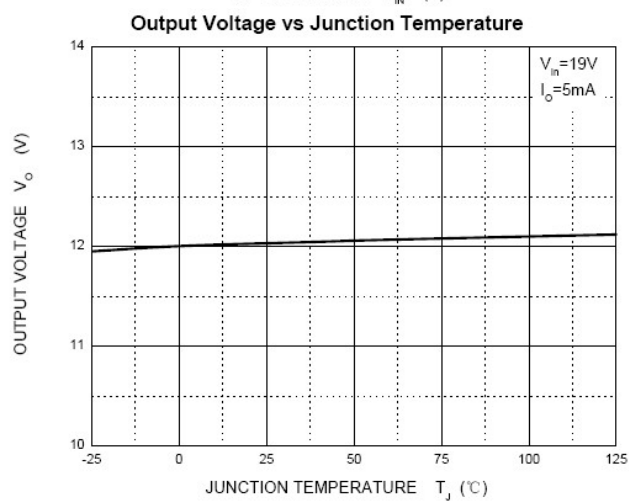
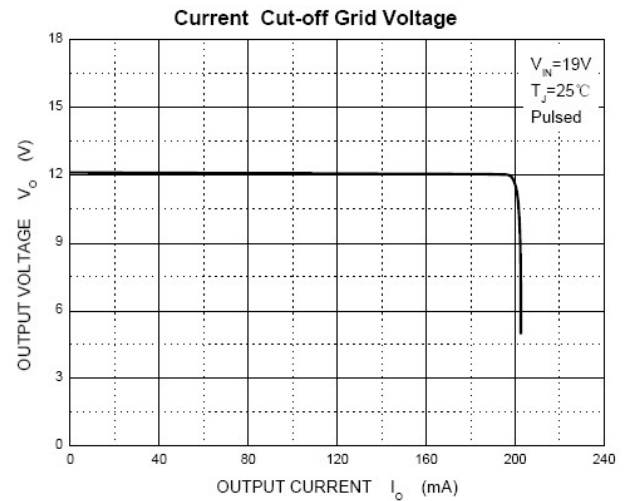
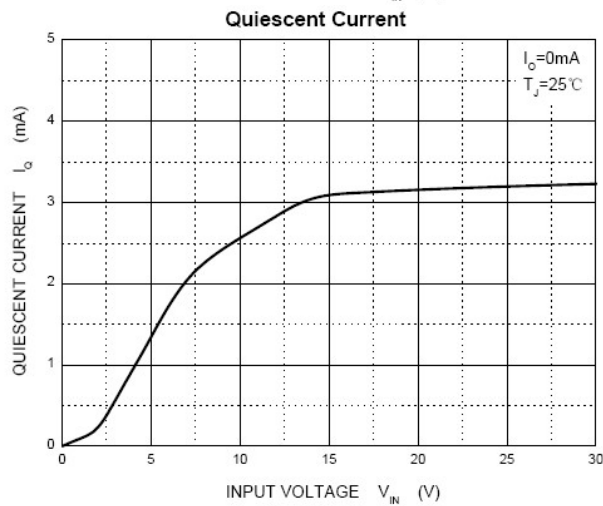
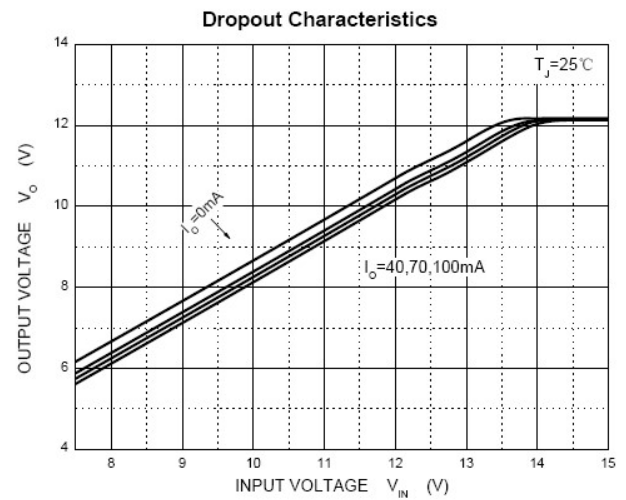
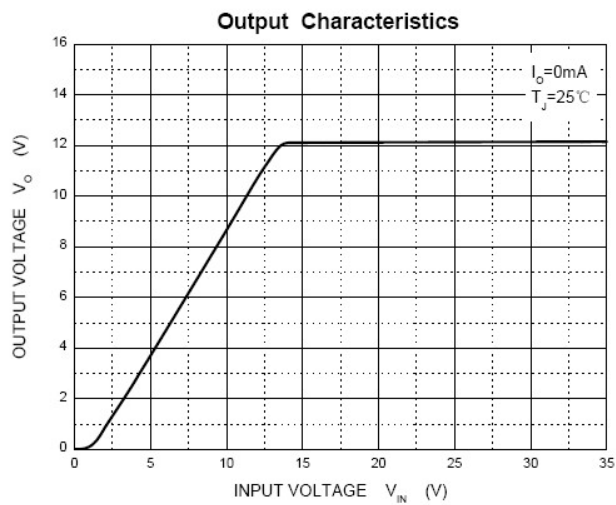
* Pulse test.

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



Ordering information

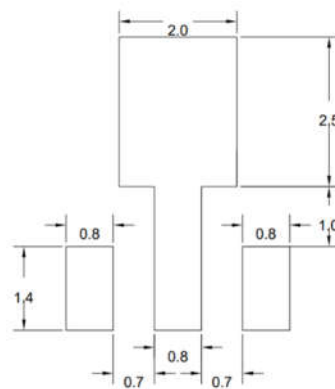
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

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