

FEATURE

Maximum Output current

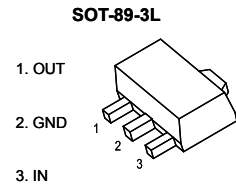
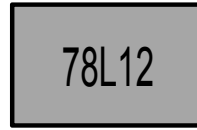
I_{OM} : 0.1 A

Output voltage

V_o : 12 V

Continuous total dissipation

P_D : 0.5W



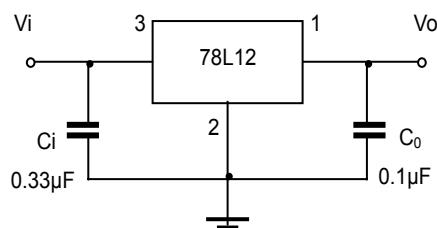
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Units
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V_o	25°C	11.5	12	12.5	V	
		0-125°C	14V ≤ V_i ≤ 27V, I_o = 1mA-40mA	11.4	12	12.6	V
			I_o = 1mA-70mA	11.4	12	12.6	V
Load Regulation	ΔV_o	I_o = 1mA-100mA, 25°C		22	100	mV	
		I_o = 1mA-40mA, 25°C		13	50	mV	
Line regulation	ΔV_o	14.5V ≤ V_i ≤ 27V, 25°C		55	250	mV	
		16V ≤ V_i ≤ 27V, 25°C		49	200	mV	
Quiescent Current	I_q	25°C		4.3	6.5	mA	
Quiescent Current Change	ΔI_q	16V ≤ V_i ≤ 27V, 0-125°C			1.5	mA	
	ΔI_q	1mA ≤ I_o ≤ 40mA, 0-125°C			0.1	mA	
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100KHz, 25°C		70		uV	
Ripple Rejection	RR	15V ≤ V_i ≤ 25V, f = 120Hz, 0-125°C	37	42		dB	
Dropout Voltage	V_d	25°C		1.7		V	

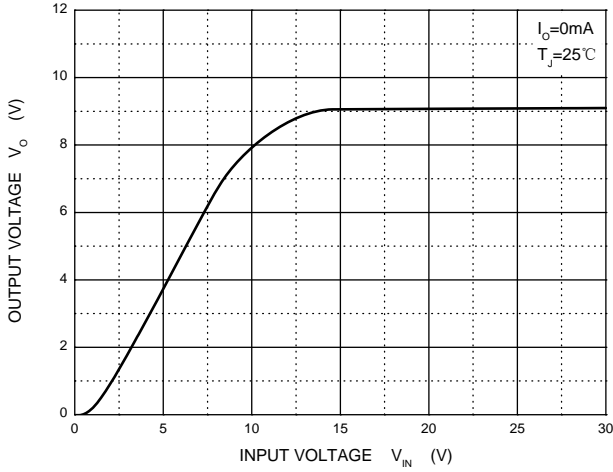
TYPICAL APPLICATION



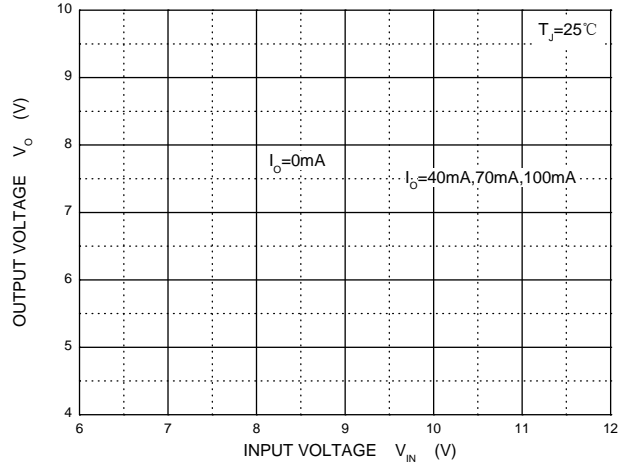
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

RATING AND CHARACTERISTIC CURVES

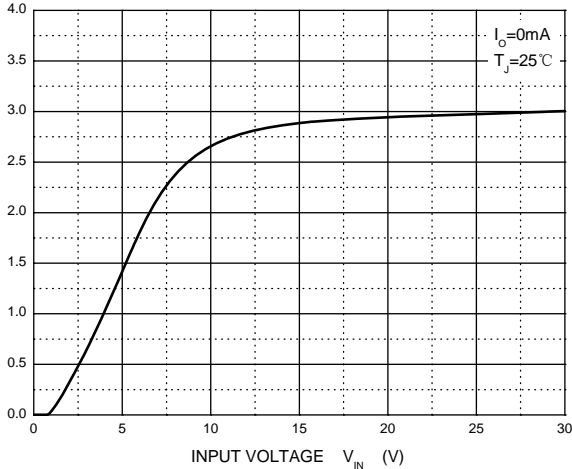
Output Characteristics



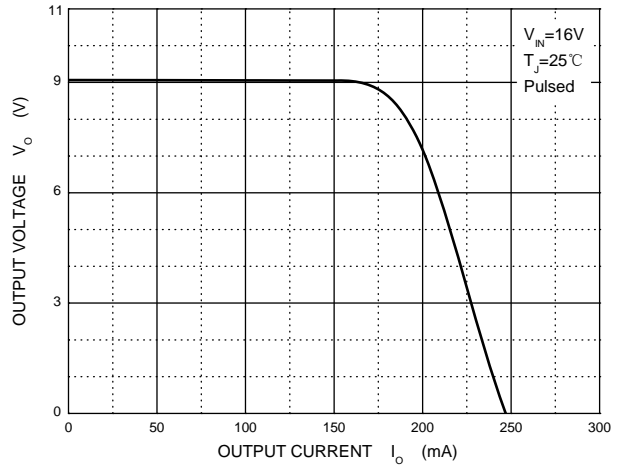
Dropout Characteristics



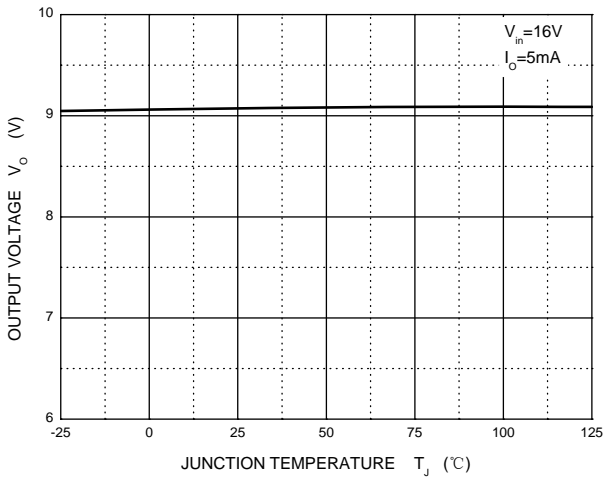
Quiescent Current vs Input Voltage



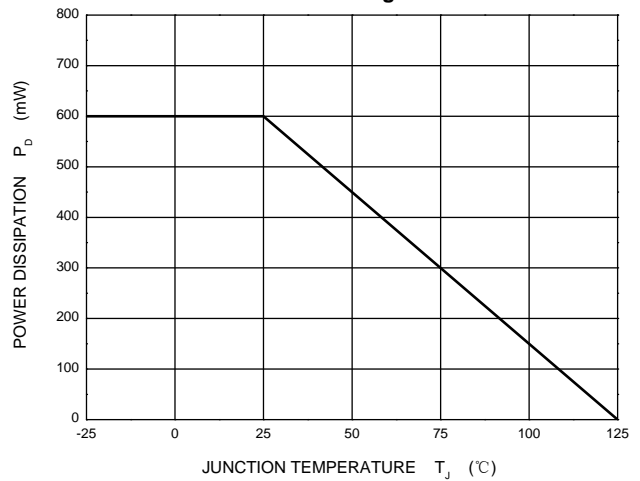
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature

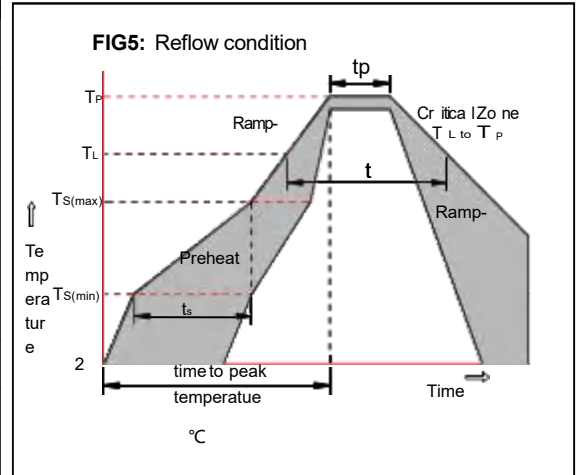


Power Derating Curve



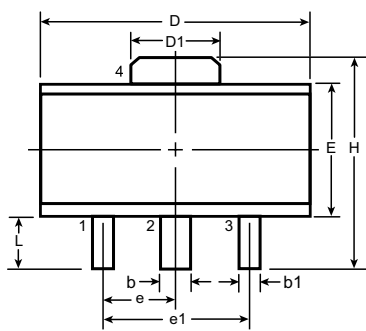
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max ($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217 °C
	-Temperature (t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C

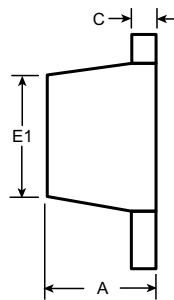


Package Dimensions & Suggested Pad Layout

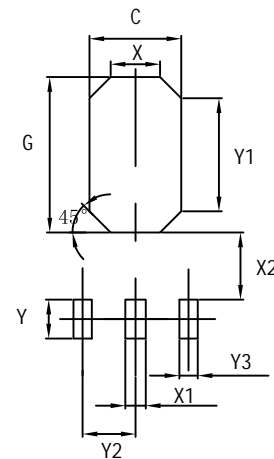
SOT89



Top View



Side View



Symbol	A	b	b1	C	D	D1	E	E1	e	e1	H	L	
Dimensions (mm)	MIN	1.40	0.44	0.36	0.3	4.40	1.50	2.29	2.00 [†]	1.50	3.00	3.94	0.89
	NOM	-	-	-	-	-	-	-	-	BSC	BSC	-	-
	MAX	1.60	0.56	0.48	0.5	4.60	1.75	2.60	2.29	-	-	4.25	1.20

Dimensions	Value (in mm)
C	2.50
G	3.60
X	1.40
X1	0.90
X2	0.90
Y	1.40
Y1	2.60
Y2	1.50
Y3	0.90

Tape & reel specification

Tape		Symbol	Dimension (mm)		
		P0	4.00±0.20		
		P1	8.00±0.20		
		P2	2.00±0.20		
		D0	1.60±0.20		
		D1	1.60±0.20		
		E	1.75±0.20		
		F	7.50±0.15		
		W	16.00±0.20		
		A0	6.30±0.20		
		B0	8.25±0.20		
		K0	2.60±0.20		
		T	0.23±0.10		
		13" Reel		D2	180.0±5.0
				D3	60Min.
D4	R32.0±2.0				
G	R86.5±2.0				
H	R30.0±2.0				
I	13.0±2.0				
W1	13.20±2.0				
W2	16.50±2.0				
Quantity: 1000PCS					