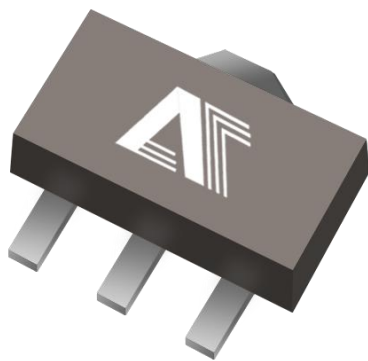




Linear regulator

LDO

78L12L(35V)

Product Data Sheet

**AOTE DCC
RELEASE**

◆ Summary :

The 78L12L family is a monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply current up to 100mA. The 78L12L family is available in SOT89-3 package.

◆ Product features

- Maximum Output Current of 100mA
- Fixed Output Voltage of 3.3V, 5V, 6V, 8V, 9V, 10V, 12V and 15V
- Thermal Overload Shutdown Protection
- Short Circuit Current Limiting

◆ Application Fields

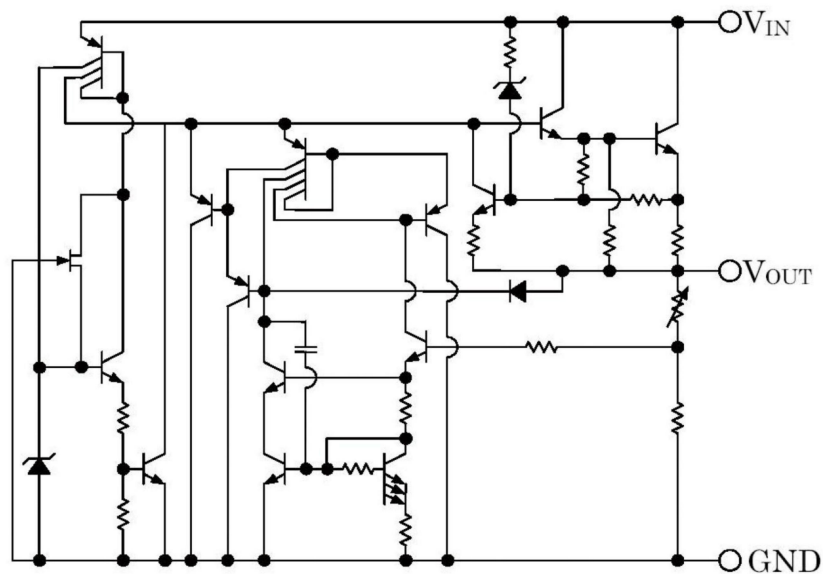
- Network Products
- Sound Card and Computer Motherboard
- Linear Regulator Source
- CD-ROM and DVD-ROM
- Controller

◆ Packaging Information

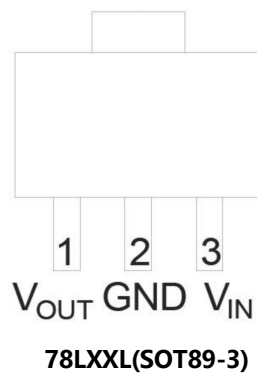
Part No	Package Description	Package Marking	Package Option
78L12L	SOT89-3	78LXXL SXXXX	1000/Reel

Trademark SXXXX: Lot NO. 78LXXL Part NO. (XX: Output Voltage)
 XX(Output Voltage): 33(3.3V)/05(5.0V)/06(6.0V)/12(8.0V)/09(9.0V)/10(10V)/12(12V)/15(15V)

◆ Pin Configuration and Functions (Top View)



◆ Pin Description



◆ Absolute Maximum Ratings

(Operating temperature range applies unless otherwise specified, $T_{amb}=25^{\circ}\text{C}$)

Parameter Name		Symbol	Value	Unit
Input Voltage	$V_O=3.3\text{V}\sim 10\text{V}$	V_{IN}	30	V
	$V_O=12\text{V}\sim 15\text{V}$		35	
Output Current		I_O	100	mA
Power Dissipation	SOT89-3	P_d	500	mW
Operating Temperature Range		T_{opr}	$-40\sim 125$	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^{\circ}\text{C}$
Operating Junction Temperature		T_j	150	$^{\circ}\text{C}$

◆ 78L12L Electrical Characteristics

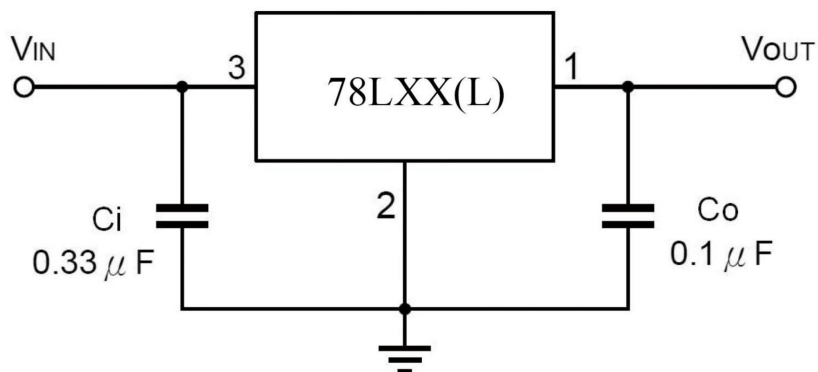
Operating Conditions: $V_{in}=19V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$ Unless otherwise specified. (Note 1)

Parameter Name	Symbol	Test conditions	Min	Typt	Max	Unit
Output Voltage	V_o	$T_j=25^{\circ}C$	11.52	12.00	12.48	V
		$14.5V \leq V_i \leq 27V, I_o=1mA \sim 40mA$	11.40		12.60	V
		$I_o=1mA \sim 70mA$	11.40		12.60	V (Note2)
Load Regulation	ΔV_o	$T_j=25^{\circ}C; I_o=1mA \sim 100mA$		20	150	mV
		$T_j=25^{\circ}C; I_o=1mA \sim 40mA$		5	75	mV
Line Regulation	ΔV_o	$T_j=25^{\circ}C;$ $14.5V \leq V_i \leq 27V$		20	300	mV
		$T_j=25^{\circ}C; 16V \leq V_i \leq 27V$		15	250	mV
Quiescent Current	I_q	$T_j=25^{\circ}C; I_o=0mA$		2.0	6.0	mA
Quiescent current Change	ΔI_q	$16V \leq V_i \leq 27V$			1.5	mA
		$1mA \leq I_o \leq 40mA$			0.1	mA
Output Noise Voltage	eN	$10Hz \leq f \leq 100kHz$		80		μV
Temperature Coefficient of Output Voltage	$\Delta V_o / \Delta T$	$I_o=5mA$		-1.0		mV/ $^{\circ}C$
Ripple Rejection Ratio	RR	$15V \leq V_i \leq 25V; f=120Hz; T_j=25^{\circ}C$	37	42		dB
Dropout Voltage	V_d	$T_j=25^{\circ}C$		1.7		V

Note 1: The Maximum steady state usable output current is dependent on input voltage, heat sinking, lead length of the package and copper pattern of PCB.

Note 2: Power dissipation is less than 0.75W.

◆ **Typical Applications**

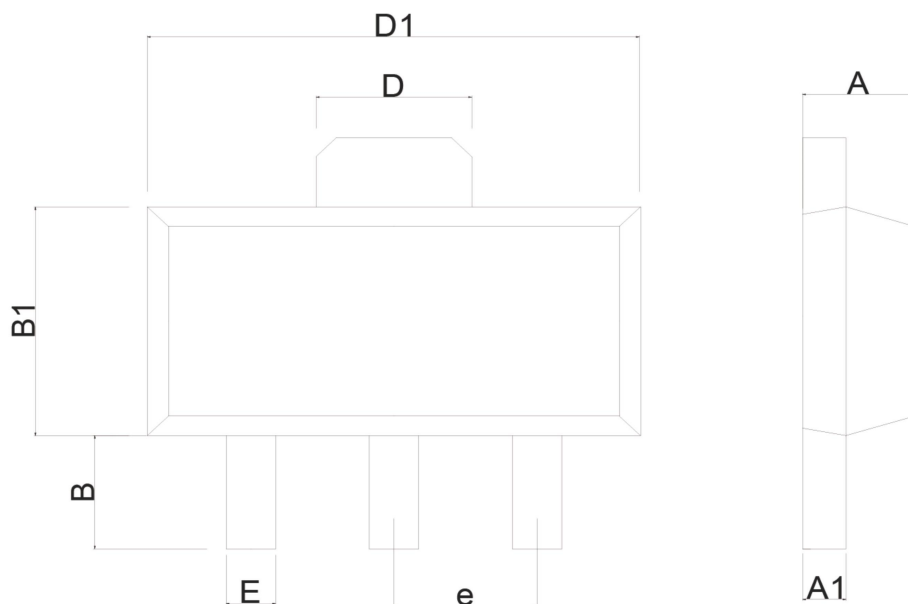


Note 1: "XX" stands for different output voltage value.

Note 2: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

◆ Package outline dimensions

SOT89-3



Symbol	Diemnsions In Millimeters		Diemnsions In Inches	
	Min	Max	Min	Max
A	1.450	1.550	0.057	0.061
A1	0.390	0.410	0.015	0.016
B	0.950	1.050	0.037	0.041
B1	2.350	2.550	0.092	0.100
E	0.350	0.450	0.013	0.017
D1	4.400	4.600	0.173	0.181
D	1.550 REF		0.061 REF	
e	1.500(BSC)		0.059(BSC)	

◆ Attention

- AOTE implements dynamic technical updates. Specifications are subject to change. Refer to the official website for the latest version.
- Users must strictly adhere to specified conditions. Failures caused by misuse (overload, high temperature, incompatible circuits) are excluded from warranty.
- Contact technical support for customized validation in critical applications (medical devices, industrial control).
- This document is valid until December 31, 2026. Updates will be notified on the official website.
- For further clarification on technical specifications or application solutions, please contact us through official channels: