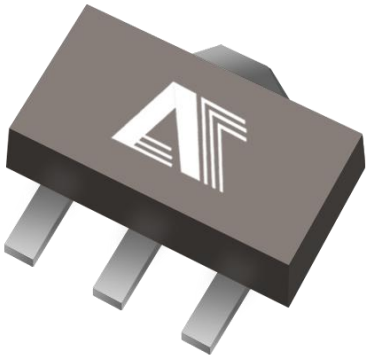
AOTE
SEMICONDUCTOR



Linear regulator

LDO

78L05L(30V)

Product Data Sheet

AOTE DCC
RELEASE

Summary ：

The 78L05L family is a monolithic fixed voltage regulator integrated circuit. They are suitable for applications that required supply curent up to 100mA.The 78L05L family is available in SOT89-3 package.

Product features

- Maximum Output Current of 100mA
- Fixed Output Vollage 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
78L05L	SOT89-3	78LXXL SXXXX	1000/Reel

Trademark SXXXX:Lot NO. 78LXXL Part NO. (XX:Output Voltage)

XX(Ouput Voltage):33(3.3V)/05(5.0V)06(6.0V)12(8.0V)09(9.0V)10(10V)/12(12V)/15(15V)

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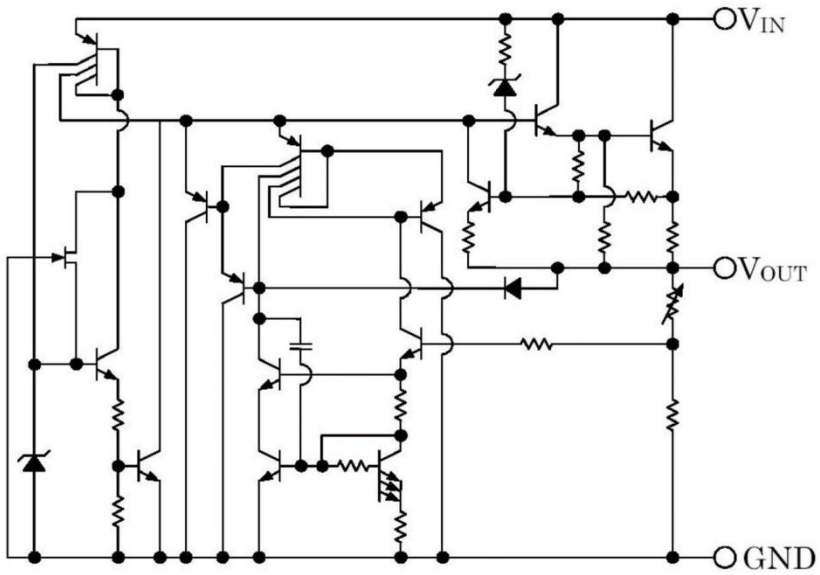
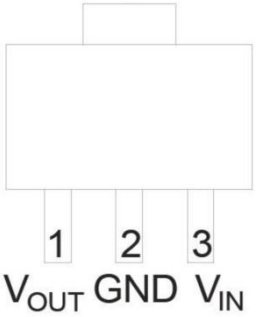
◆ Pin Configuration and Functions (Top View)



◆ Pin Description



78LXXL(SOT89-3)

◆ Absolute Maximum Ratings

(Operating temperature range applies unless otherwise specified, Tamb=25℃)

Parameter Name		Symbol	Value	Unit
Input Voltage	V_O=3.3V~10V	V_{IN}	30	V
	V_O=12V~15V		35	
Output Current		I_O	100	mA
Power Dissipation	SOT89-3	Pd	500	mW
Operating Temperature Range		Topr	-40~125	℃
Storage Tempcrature Range		Tstg	-55~150	℃
Operating Junction Temperature		Tj	150	℃

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◆ 78L12L Electrical Characteristics

Operating Conditions: Vin=19V,Io=40mA,Ci=0.33μF,Co=0.1μF Unless otherwise specified. (Note 1)

Parameter Name	Symbol	Test conditions	Min	Typt	Max	Unit
Output Voltage	Vo	Tj=25℃	5.76	6.00	6.24	V
		8.5V≤Vi≤20V Io=1mA~40mA	5.70		6.30	V
		Io=1mA~70mA	5.70		6.30	V (Note2)
Load Regulation	ΔVo	Tj=25℃;Io=1mA~100mA		15	80	mV
		Tj=25℃;Io=1mA~40mA		5	40	mV
Line Regulation	ΔVo	Tj=25℃;8.5V≤Vi≤20V		10	175	mV
		Tj=25℃;9V≤Vi≤20V		5	125	mV
Quiescent Current	Iq	Tj=25℃;Io=0mA		3.9	6.0	mA
Quiescent current Change	ΔIq	9V≤Vi≤20V			1.5	mA
		1mA≤Io≤40mA			0.1	mA
Output Noise Voltage	eN	10Hz≤f≤100kHz		49		μV
Temperature CoffiCient of Output Voltage	ΔVo/ΔT	Io=5mA		-0.7		mV/℃
Ripple Rejcction Ratio	RR	7.5V≤Vi≤18V; f=120Hz;Tj=25℃	40	46		dB
Dropout Voltage	Vd	Tj=25℃		1.7		V

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

Note 2: Power dissipation is less than 0.75W.

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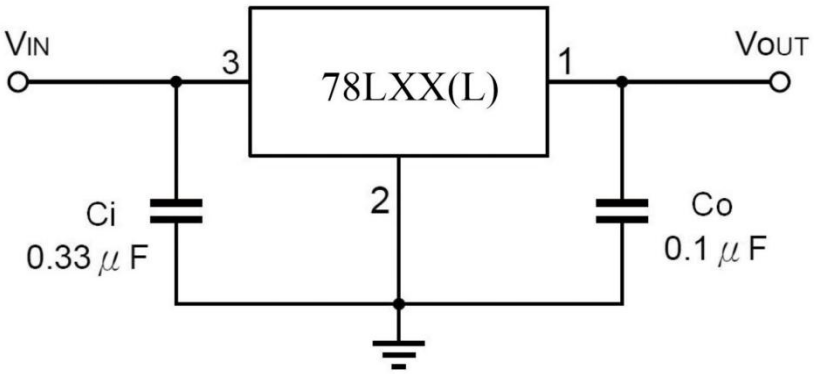
◆ Typical Applications



Note 1:"XX" stands for different output voltage value.
Note 2: Bypass capacitors are recommended for optimum stabiliy and transient response and should be located as close as possible to the regulators.

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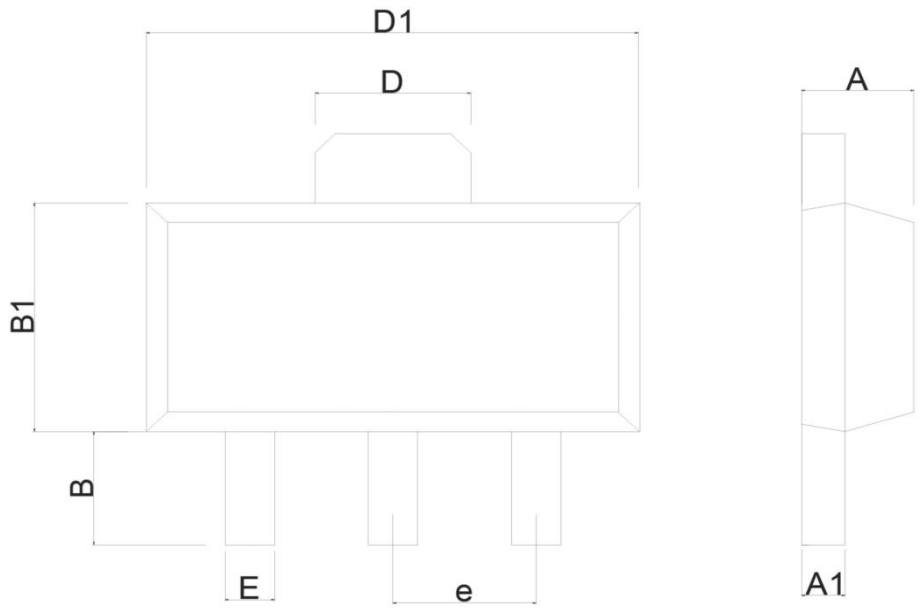
◆ Package outline dimensions

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)	

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◆ 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:

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