DESCRIPTION

Three-terminal negative voltage regulator.

The A79L05~A79L24 is available in SOT89-3 Package.

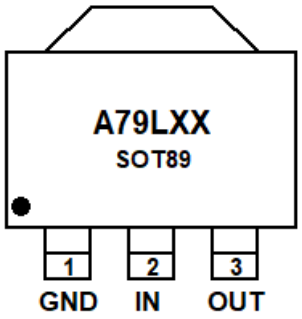
FEATURES

- main purposes
  the role of regulator and protection for a variety of electrical appliances, electronic equipment, regulator circuit
- Available in SOT89-3 Package

ORDERING INFORMATION

Package Type	Part Number	
SOT89-3 SPQ: 1,000pcs/Reel	K3	A79LXXK3R
		A79LXXK3VR
Note	XX: Output Voltage 05=5.0V, 12=12V V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		

PIN DESCRIPTION



Top View

Pin #	Symbol	Function
1	GND	Ground
2	IN	Input
3	OUT	Output

ABSOLUTE MAXIMUM RATINGS

Operating temperature range applies unless otherwise specified

V_I, Input Voltage (T_A=25°C)	
(A79L05~A79L15)	-35V
(A79L18~A79L24)	-40V
I_O, Output Current	0.15A
P_D, Total Power Dissipation (T_A=25°C)NOTE1	0.5W
T_{OP}, Work (Tube Shell) Temperature	-40°C ~ +85°C
T_{STG}, Storage Temperature	-55°C ~ +150°C

Stresses above may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Devices installed in good thermal environment

ELECTRICAL CHARACTERISTICS

A79L05

0℃≤T_J≤+125℃, V_I=-10V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-4.8	-5	-5.2	V
		1mA≤I_O≤40mA, -7V≤V_I≤-20V		-4.75	-5	-5.25	
Voltage Regulation	S_V	T_J=25°C	-7V≤V_I≤-20V	-	-	150	mV
			-8V≤V_I≤-20V	-	-	100	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	60	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-8V≤V_I≤-20V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-8V≤V_I≤-18V; f=120Hz		-	49	-	dB

A79L06

0℃≤T_J≤+125℃, V_I=-11V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-5.76	-6	-6.24	V
		1mA≤I_O≤40mA, -8.1V≤V_I≤-21V		-5.7	-6	-6.3	
Voltage Regulation	S_V	T_J=25°C	-8.1V≤V_I≤-21V	-	-	150	mV
			-9V≤V_I≤-21V	-	-	110	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	70	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-9V≤V_I≤-20V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-9V≤V_I≤-19V; f=120Hz		-	47	-	dB

A79L08

0℃≤T_J≤+125℃, V_I=-14V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-7.7	-8	-8.3	V
		1mA≤I_O≤40mA, -10.5V≤V_I≤-23V		-7.6	-8	-8.4	
Voltage Regulation	S_V	T_J=25°C	-10.5V≤V_I≤-23V	-	-	175	mV
			-11V≤V_I≤-23V	-	-	125	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	80	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-11V≤V_I≤-23V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-12V≤V_I≤-23V; f=120Hz		-	45	-	dB

A79L09

0℃≤T_J≤+125℃, V_I=-15V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-8.64	-9	-9.36	V
		1mA≤I_O≤40mA, -11.4V≤V_I≤-24V		-8.55	-9	-9.45	
Voltage Regulation	S_V	T_J=25°C	-11.4V≤V_I≤-24V	-	-	200	mV
			-12V≤V_I≤-24V	-	-	160	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	90	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-12V≤V_I≤-24V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-12V≤V_I≤-24V; f=120Hz		-	44	-	dB

A79L10

0℃≤T_J≤+125℃, V_I=-16V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-9.6	-10	-10.4	V
		1mA≤I_O≤40mA, -12.5V≤V_I≤-25V		-9.5	-10	-10.5	
Voltage Regulation	S_V	T_J=25°C	-12.5V≤V_I≤-25V	-	-	230	mV
			-13V≤V_I≤-25V	-	-	170	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	90	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-13V≤V_I≤-25V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-13V≤V_I≤-24V; f=120Hz		-	43	-	dB

A79L12

0℃≤T_J≤+125℃, V_I=-19V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-11.5	-12	-12.5	V
		1mA≤I_O≤40mA, -14.5V≤V_I≤-27V		-11.4	-12	-12.6	
Voltage Regulation	S_V	T_J=25°C	-14.5V≤V_I≤-27V	-	-	250	mV
			-16V≤V_I≤-27V	-	-	200	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	100	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-16V≤V_I≤-27V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-15V≤V_I≤-25V; f=120Hz		-	42	-	dB

A79L15

0℃≤T_J≤+125℃, V_I=-23V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-14.4	-15	-15.6	V
		1mA≤I_O≤40mA, -17.5V≤V_I≤-30V		-14.25	-15	-15.75	
Voltage Regulation	S_V	T_J=25°C	-17.5V≤V_I≤-30V	-	-	300	mV
			-20V≤V_I≤-30V	-	-	250	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	150	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-20V≤V_I≤-30V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-18.5V≤V_I≤-28.5V; f=120Hz		-	39	-	dB

A79L18

0℃≤T_J≤+125℃, V_I=-27V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-17.3	-18	-18.7	V
		1mA≤I_O≤40mA, -20.7V≤V_I≤-33V		-17.1	-18	-18.9	
Voltage Regulation	S_V	T_J=25°C	-20.7V≤V_I≤-33V	-	-	325	mV
			-21V≤V_I≤-33V	-	-	275	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	170	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-21V≤V_I≤-33V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-23V≤V_I≤-33V; f=120Hz		-	48	-	dB

A79L20

0℃≤T_J≤+125℃, V_I=-29V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-19.2	-20	-20.8	V
		1mA≤I_O≤40mA, -23.5V≤V_I≤-35V		-19.0	-20	-21.0	
Voltage Regulation	S_V	T_J=25°C	-23.5V≤V_I≤-35V	-	-	330	mV
			-24V≤V_I≤-35V	-	-	285	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	180	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-24V≤V_I≤-35V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-27V≤V_I≤-35V; f=120Hz		-	37	-	dB

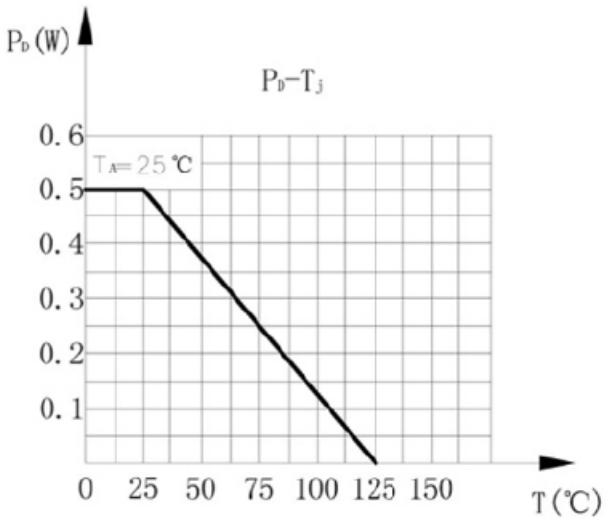
A79L24

0℃≤T_J≤+125℃, V_I=-33V, I_O=40mA, C_I=0.33μF, C_O=0.1uF , unless otherwise specified

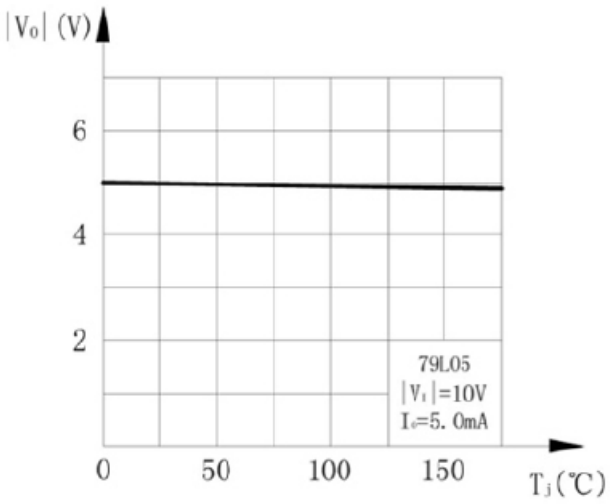
Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_J=25°C		-23.0	-24	-25.0	V
		1mA≤I_O≤40mA, -27V≤V_I≤-38V		-22.8	-24	-25.2	
Voltage Regulation	S_V	T_J=25°C	-27V≤V_I≤-38V	-	-	350	mV
			-28V≤V_I≤-38V	-	-	300	
Current Regulation	S_I	T_J=25°C, 1mA≤I_O≤100mA		-	-	200	mV
Quiescent Current	I_Q	T_J=25°C		-	-	6.5	mA
Quiescent Current Change	ΔI_Q	1mA≤I_O≤40mA		-	-	0.1	mA
		-28V≤V_I≤-38V		-	-	1.5	
Input-Output Differential Pressure	| V_I-V_O |	T_J=25°C		-	1.7	-	V
Ripple Rejection Ratio	Srip	-29V≤V_I≤-35V; f=120Hz		-	47	-	dB

TYPICAL CHARACTERISTICS

1. Dissipation of Power and Temperature Curves

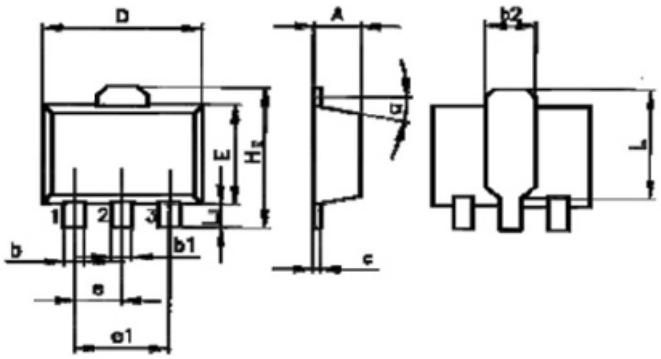


2. The Curve of The Output Voltage and Junction Temperature



PACKAGE INFORMATION

Dimension in SOT89-3 (Unit: mm)



1 GND 2 IN 3 OUT

Symbol	Min	Max
A	1.5 TYP.	
b	-	0.65
b1	-	0.65
b2	1.6 TYP.	
c	0.25	-
D	4.5 TYP.	
E	-	2.6
e	1.5 TYP.	
e1	3 TYP.	
H_E	-	4.25
L	2.6	2.95
L_E	0.8	1.2
α	-	10°

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