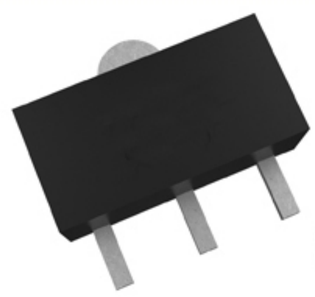
79L05--79L24

- **Three-terminal negative voltage regulator**
- Main purposes:
  The role of regulator and protection for a variety of electrical appliances, electronic equipment, regulator circuit
- Maximum Ratings

Three-terminal fixed output voltage regulator

0.5W、0.15A、-5V～-24V



SOT-89

Parameter		Symbol	Ratings	Unit
Input voltage (T_A=25℃)	79L05～79L15	V_I	-35	V
	79L18～79L24		-40	
Output current		I_O	0.15	A
Total power dissipation (T_A=25℃) *)		P_D	0.5	W
Work (tube shell) temperature		T_{OP}	-40~85	℃
Storage temperature		T_{stg}	-55~150	℃

Note:Devices installed in good thermal environment

79L05 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-10V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	T_J=25℃		-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℃	-7V≤V_I≤-20V	—	—	150	mV
			-8V≤V_I≤-20V	—	—	100	
Current Regulation	S_I	T_J=25℃，1mA≤I_O≤100mA		—	—	60	mV
Quiescent Current	IQ	T_J=25℃		—	—	6	mA
Quiescent Current Change	$\triangle I_Q$	1mA≤I_O≤40mA		—	—	0.1	mA
		-8V≤V_I≤-20V		—	—	1.5	
Input - output differential pressure	$\|V_I - V_O\|$	T_J=25℃		—	1.7	—	V
Ripple Rejection Ratio	Srip	-8V≤V_I≤-18V；f=120Hz		—	49	—	dB

79L06 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-11V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	T_J=25℃		-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℃	-8.1V≤V_I≤-21V	—	—	150	mV
			-9V≤V_I≤-21V	—	—	110	
Current Regulation	S_I	T_J=25℃，1mA≤I0≤100mA		—	—	70	mV
Quiescent Current	I_Q	T_J=25℃		—	—	6	mA
Quiescent Current Change	$\triangle I_Q$	1mA≤I_O≤40mA		—	—	0.1	mA
		-9V≤V_I≤-20V		—	—	1.5	
Input - output differential pressure	$\|V_I - V_O\|$	T_J=25℃		—	1.7	—	V
Ripple Rejection Ratio	Srip	-9V≤V_I≤-19V；f=120Hz		—	47	—	dB

79L08 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-14V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-7.7	-8	-8.3	V
		$1mA \leqslant I_O \leqslant 40mA$, $-10.5V \leqslant V_I \leqslant -23V$		-7.6	-8	-8.4	
Voltage Regulation	S_V	$T_J=25℃$	$-10.5V \leqslant V_I \leqslant -23V$	—	—	175	mV
			$-11V \leqslant V_I \leqslant -23V$	—	—	125	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	80	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$,		—	—	0.1	mA
		$-11V \leqslant V_I \leqslant -23V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-12V \leqslant V_I \leqslant -23V$; f=120Hz		—	45	—	dB

79L09 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-15V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-8.64	-9	-9.36	V
		$1mA \leqslant I_O \leqslant 40mA$, $-11.4V \leqslant V_I \leqslant -24V$		-8.55	-9	-9.45	
Voltage Regulation	S_V	$T_J=25℃$	$-11.4V \leqslant V_I \leqslant -24V$	—	—	200	mV
			$-12V \leqslant V_I \leqslant -24V$	—	—	160	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	90	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-12V \leqslant V_I \leqslant -24V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-12V \leqslant V_I \leqslant -24V$; f=120Hz		—	44	—	dB

79L10 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-16V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-9.6	-10	-10.4	V
		$1mA \leqslant I_O \leqslant 40mA$, $-12.5V \leqslant V_I \leqslant -25V$		-9.5	-10	-10.5	
Voltage Regulation	S_V	$T_J=25℃$	$-12.5V \leqslant V_I \leqslant -25V$	—	—	230	mV
			$-13V \leqslant V_I \leqslant -25V$	—	—	170	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	90	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-13V \leqslant V_I \leqslant -25V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-13V \leqslant V_I \leqslant -24V$; f=120Hz		—	43	—	dB

79L12 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-19V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-11.5	-12	-12.5	V
		$1mA \leqslant I_O \leqslant 40mA$, $-14.5V \leqslant V_I \leqslant -27V$		-11.4	-12	-12.6	
Voltage Regulation	S_V	$T_J=25℃$	$-14.5V \leqslant V_I \leqslant -27V$	—	—	250	mV
			$-16V \leqslant V_I \leqslant -27V$	—	—	200	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	100	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-16V \leqslant V_I \leqslant -27V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-15V \leqslant V_I \leqslant -25V$; f=120Hz		—	42	—	dB

79L15 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-23V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-14.4	-15	-15.6	V
		$1mA \leqslant I_O \leqslant 40mA$, $-17.5V \leqslant V_I \leqslant -30V$		-14.25	-15	-15.75	
Voltage Regulation	S_V	$T_J=25℃$	$-17.5V \leqslant V_I \leqslant -30V$	—	—	300	mV
			$-20V \leqslant V_I \leqslant -30V$	—	—	250	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	150	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-20V \leqslant V_I \leqslant -30V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-18.5V \leqslant V_I \leqslant -28.5V$; f=120Hz		—	39	—	dB

79L18 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-27V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-17.3	-18	-18.7	V
		$1mA \leqslant I_O \leqslant 40mA$, $-20.7V \leqslant V_I \leqslant -33V$		-17.1	-18	-18.9	
Voltage Regulation	S_V	$T_J=25℃$	$-20.7V \leqslant V_I \leqslant -33V$	—	—	325	mV
			$-21V \leqslant V_I \leqslant -33V$	—	—	275	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	170	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-21V \leqslant V_I \leqslant -33V$		—	—	1.5	
Input - output differential pressure	$\lvert V_I - V_O \rvert$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-23V \leqslant V_I \leqslant -33V$; f=120Hz		—	48	—	dB

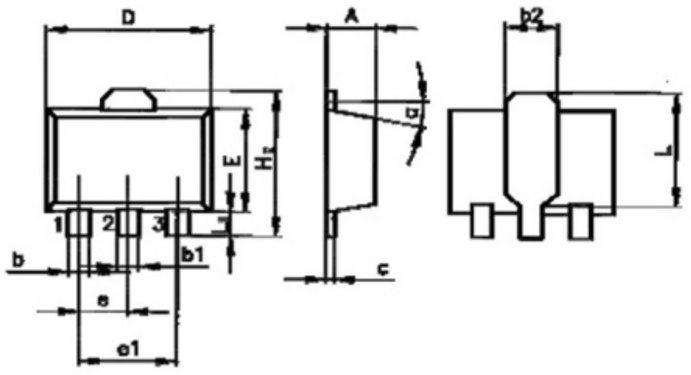
79L20 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-29V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-19.2	-20	-20.8	V
		$1mA \leqslant I_O \leqslant 40mA$, $-23.5V \leqslant V_I \leqslant -35V$		-19.0	-20	-21.0	
Voltage Regulation	S_V	$T_J=25℃$	$-23.5V \leqslant V_I \leqslant -35V$	—	—	330	mV
			$-24V \leqslant V_I \leqslant -35V$	—	—	285	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	180	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-24V \leqslant V_I \leqslant -35V$		—	—	1.5	
Input - output differential pressure	$\|V_I - V_O\|$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-27V \leqslant V_I \leqslant -35V$; f=120Hz		—	37	—	dB

79L24 Electrical characteristics (Unless otherwise specified $0 \leqslant T_J \leqslant +125℃$, $V_I=-33V$, $I_O=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$)

Parameter name	Symbol	Test Condition		Min	Typ	Max	Unit
Output Voltage	V_O	$T_J=25℃$		-23.0	-24	-25.0	V
		$1mA \leqslant I_O \leqslant 40mA$, $-27V \leqslant V_I \leqslant -38V$		-22.8	-24	-25.2	
Voltage Regulation	S_V	$T_J=25℃$	$-27V \leqslant V_I \leqslant -38V$	—	—	350	mV
			$-28V \leqslant V_I \leqslant -38V$	—	—	300	
Current Regulation	S_I	$T_J=25℃$, $1mA \leqslant I_O \leqslant 100mA$		—	—	200	mV
Quiescent Current	I_Q	$T_J=25℃$		—	—	6.5	mA
Quiescent Current Change	$\triangle I_Q$	$1mA \leqslant I_O \leqslant 40mA$		—	—	0.1	mA
		$-28V \leqslant V_I \leqslant -38V$		—	—	1.5	
Input - output differential pressure	$\|V_I - V_O\|$	$T_J=25℃$		—	1.7	—	V
Ripple Rejection Ratio	Srip	$-29V \leqslant V_I \leqslant -35V$; f=120Hz		—	47	—	dB

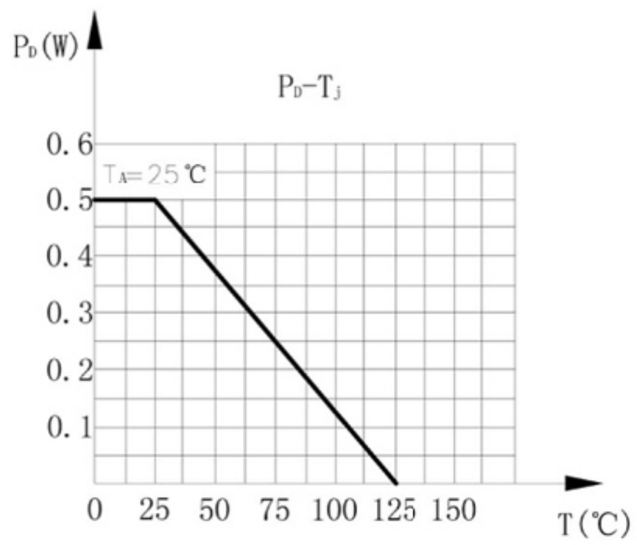
SOT-89 Dimensions



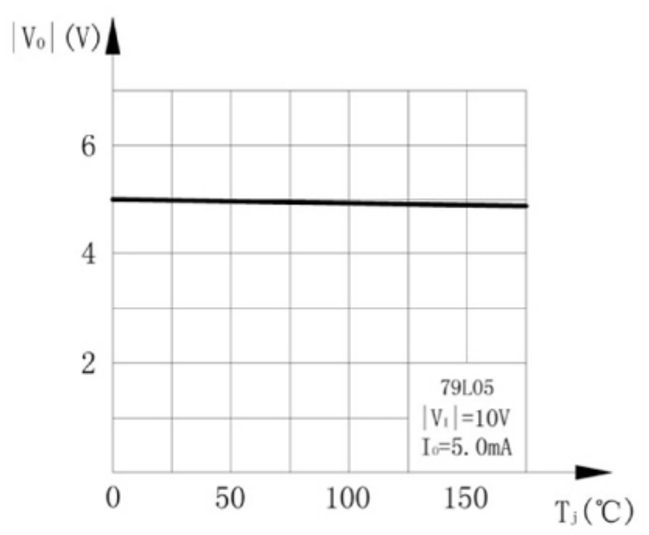
1 GND 2 IN 3 OUT

Unit: mm

Size / Symbol	SOT-89 min	SOT-89 typ	SOT-89 max	Size / Symbol	SOT-89 min	SOT-89 typ	SOT-89 max
A		1.5		e		1.5	
b			0.65	e1		3	
b1			0.65	H_E			4.25
b2		1.6		L	2.6		2.95
c	0.25			L_E	0.8		1.2
D		4.5		α			10°
E			2.6				



Dissipation of power and temperature curves



The curve of the output voltage and junction temperature