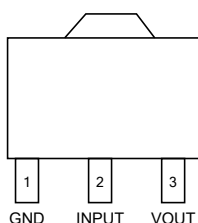


1.Features

- Three-terminal fixed output voltage regulator
0.5W 0.1A -5V-24V
- Three-terminal negative voltage regulator
- Main purposes: The role of regulator and protection for a variety of electrical appliances electronic equipment, regulator circuit

2.Pinning Information



3.Absolute Maximum Rating

Parameter		Symbol	Value	Units
Input voltage($T_A=25^{\circ}\text{C}$)	79L05~79L15	V_I	-35	V
	79L18~79L24		-40	V
Output current		I_O	0.1	A
Total power dissipation ($T_A=25^{\circ}\text{C}$)		P_D	0.5	W
Work (tube shell) temperature		T_{OP}	-40 to 85	$^{\circ}\text{C}$
Storage temperature		T_{STG}	-55 to 150	$^{\circ}\text{C}$

Notes: Devices installed in good thermal environment.



4.1 Electrical Characteristics (79L05)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -10\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions		Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$		-4.8	-5	-5.2	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-7\text{V} \leq V_I \leq -20\text{V}$		-4.75	-5	-5.25	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-7\text{V} \leq V_I \leq -20\text{V}$			150	mV
			$-8\text{V} \leq V_I \leq -20\text{V}$			100	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$				60	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$				6	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$				0.1	mA
		$-8\text{V} \leq V_I \leq -20\text{V}$				1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$			1.7		V
Ripple Rejection Ratio	Srip	$-8\text{V} \leq V_I \leq -18\text{V}$, $f = 120\text{Hz}$			49		dB

4.2 Electrical Characteristics (79L06)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -11\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions		Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$		-5.76	-6	-6.24	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-8.1\text{V} \leq V_I \leq -21\text{V}$		-5.7	-6	-6.3	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-8.1\text{V} \leq V_I \leq -21\text{V}$			150	mV
			$-9\text{V} \leq V_I \leq -21\text{V}$			110	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$				70	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$				6	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$				0.1	mA
		$-9\text{V} \leq V_I \leq -20\text{V}$				1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$			1.7		V
Ripple Rejection Ratio	Srip	$-9\text{V} \leq V_I \leq -19\text{V}$, $f = 120\text{Hz}$			47		dB



4.3 Electrical Characteristics (79L08)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -14\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions		Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$		-7.7	-8	-8.3	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-10.5\text{V} \leq V_I \leq -23\text{V}$		-7.6	-8	-8.4	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-10.5\text{V} \leq V_I \leq -23\text{V}$			175	mV
			$-11\text{V} \leq V_I \leq -23\text{V}$			125	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$				80	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$				6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$				0.1	mA
		$-11\text{V} \leq V_I \leq -23\text{V}$				1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$			1.7		V
Ripple Rejection Ratio	Srip	$-12\text{V} \leq V_I \leq -23\text{V}$, $f = 120\text{Hz}$			45		dB

4.4 Electrical Characteristics (79L09)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -15\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions		Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$		-8.64	-9	-9.36	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-11.4\text{V} \leq V_I \leq -24\text{V}$		-8.55	-9	-9.45	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-11.4\text{V} \leq V_I \leq -24\text{V}$			200	mV
			$-12\text{V} \leq V_I \leq -24\text{V}$			160	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$				90	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$				6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$				0.1	mA
		$-12\text{V} \leq V_I \leq -24\text{V}$				1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$			1.7		V
Ripple Rejection Ratio	Srip	$-12\text{V} \leq V_I \leq -24\text{V}$, $f = 120\text{Hz}$			44		dB



4.5 Electrical Characteristics (79L10)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -16\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	-9.6	-10	-10.4	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-12.5\text{V} \leq V_I \leq -25\text{V}$	-9.5	-10	-10.5	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$			230	mV
					170	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$			90	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$			6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
		$-13\text{V} \leq V_I \leq -25\text{V}$			1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$		1.7		V
Ripple Rejection Ratio	Srip	$-13\text{V} \leq V_I \leq -24\text{V}$, $f = 120\text{Hz}$		43		dB

4.6 Electrical Characteristics (79L12)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -19\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	-11.5	-12	-12.5	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-14.5\text{V} \leq V_I \leq -27\text{V}$	-11.4	-12	-12.6	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$			250	mV
					200	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$			100	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$			6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
		$-16\text{V} \leq V_I \leq -27\text{V}$			1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$		1.7		V
Ripple Rejection Ratio	Srip	$-15\text{V} \leq V_I \leq -25\text{V}$, $f = 120\text{Hz}$		42		dB



4.7 Electrical Characteristics (79L15)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -23\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	-14.4	-15	-15.6	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-17.5\text{V} \leq V_I \leq -30\text{V}$	-14.25	-15	-15.75	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-17.5\text{V} \leq V_I \leq -30\text{V}$		300	mV
			$-20\text{V} \leq V_I \leq -30\text{V}$		250	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$			150	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$			6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
		$-20\text{V} \leq V_I \leq -30\text{V}$			1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$		1.7		V
Ripple Rejection Ratio	Srip	$-18.5\text{V} \leq V_I \leq -28.5\text{V}$, $f = 120\text{Hz}$		39		dB

4.8 Electrical Characteristics (79L18)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -27\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	-17.3	-18	-18.7	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-20.7\text{V} \leq V_I \leq -33\text{V}$	-17.1	-18	-18.9	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$	$-20.7\text{V} \leq V_I \leq -33\text{V}$		325	mV
			$-21\text{V} \leq V_I \leq -33\text{V}$		275	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$			170	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$			6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
		$-21\text{V} \leq V_I \leq -33\text{V}$			1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$		1.7		V
Ripple Rejection Ratio	Srip	$-23\text{V} \leq V_I \leq -33\text{V}$, $f = 120\text{Hz}$		48		dB



4.9 Electrical Characteristics (79L24)

(unless otherwise specified $0 \leq T_J \leq 125^\circ\text{C}$, $V_I = -33\text{V}$, $I_O = 40\text{mA}$, $C_I = 0.33\mu\text{F}$, $C_O = 0.1\mu\text{F}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Output Voltage	V_O	$T_J = 25^\circ\text{C}$	-23	-24	-25	V
		$1\text{mA} \leq I_O \leq 40\text{mA}$, $-27\text{V} \leq V_I \leq -38\text{V}$	-22.8	-24	-25.2	V
Voltage Regulation	S_V	$T_J = 25^\circ\text{C}$			350	mV
		$-27\text{V} \leq V_I \leq -38\text{V}$			300	mV
Current Regulation	S_I	$T_J = 25^\circ\text{C}$, $1\text{mA} \leq I_O \leq 100\text{mA}$			200	mV
Quiescent Current	I_Q	$T_J = 25^\circ\text{C}$			6.5	mA
Quiescent Current Change	ΔI_Q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
		$-28\text{V} \leq V_I \leq -38\text{V}$			1.5	mA
Input - output differential pressure	$ V_I - V_O $	$T_J = 25^\circ\text{C}$		1.7		V
Ripple Rejection Ratio	Srip	$-29\text{V} \leq V_I \leq -35\text{V}$, $f = 120\text{Hz}$		47		dB



5. Typical Characteristic

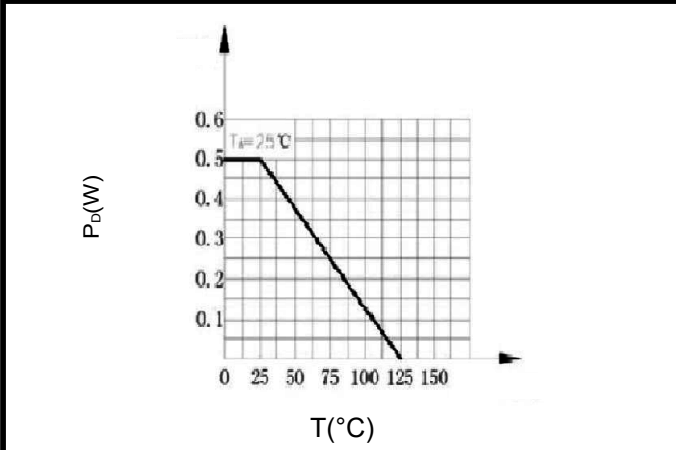


Figure 1: Dissipation of power and temperature curves

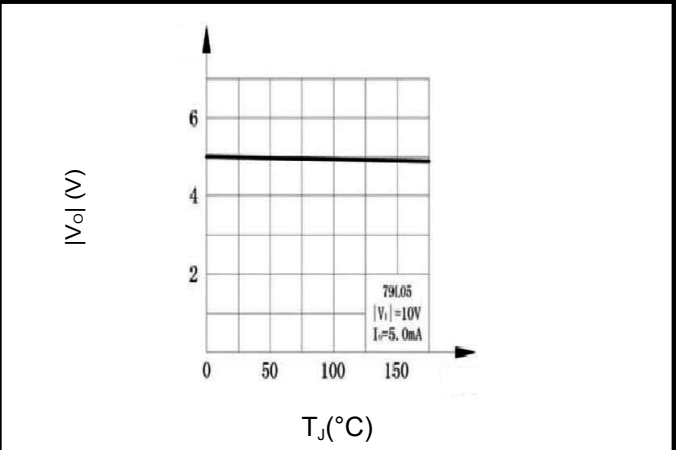
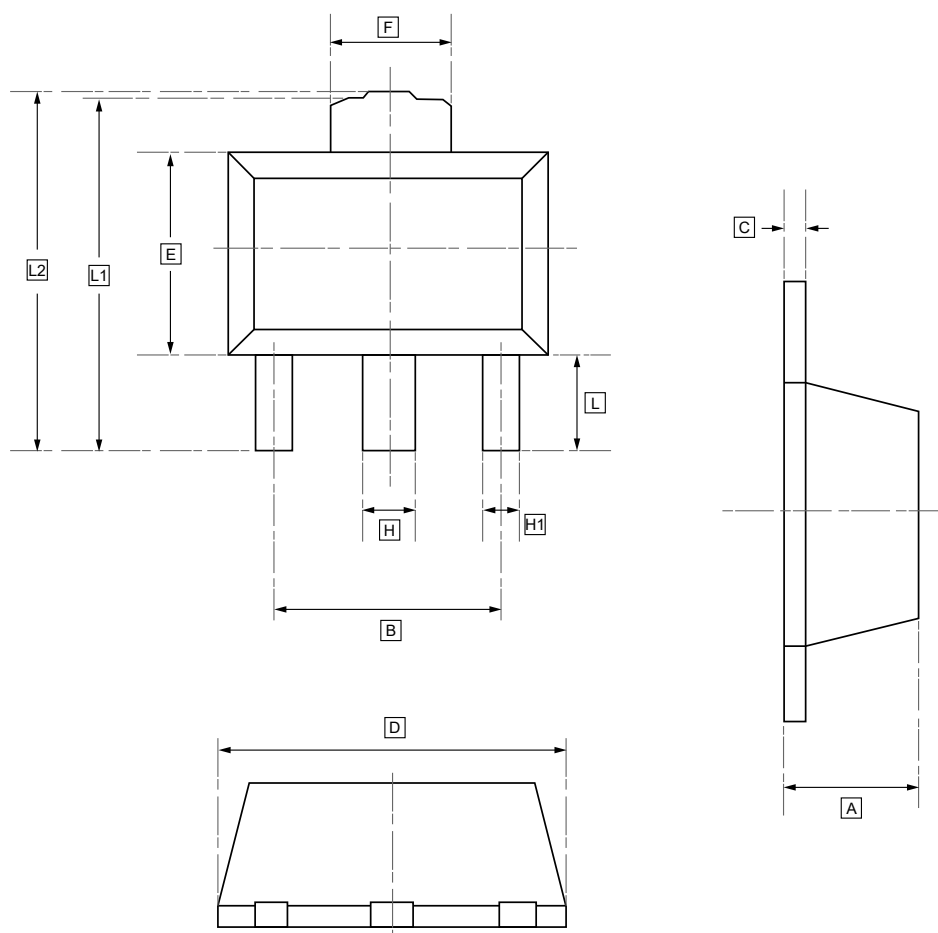


Figure 2: The curve of the output voltage and junction temperature



6.SOT-89 Package Outline Dimensions

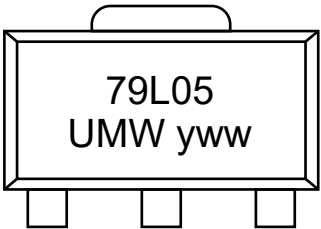


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	C	D	E	F	H	H1	L	L1	L2
Min	1.450	2.950	0.330	4.450	2.450	1.650	0.450	0.370	0.900	4.100	4.100
Max	1.550	3.050	0.430	4.550	2.550	1.750	0.580	0.480	1.000	4.300	4.350



7.Ordering Information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW 79L05	SOT-89	1000	Tape and reel



8.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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