

### SOT-89 Encapsulate Three Terminal Voltage Regulator

**78L06** Three-terminal positive voltage regulator

**FEATURES**

**Maximum Output current**

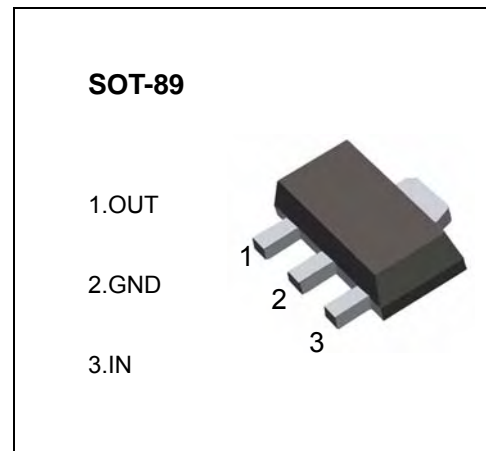
**I<sub>OM</sub>: 0.1 A**

**Output voltage**

**V<sub>o</sub>: 6 V**

**Continuous total dissipation**

**P<sub>D</sub>: 0.5W**



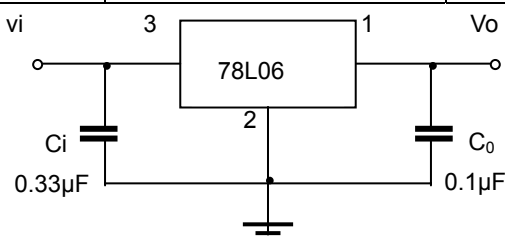
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Units
Input Voltage	V <sub>i</sub>	30	V
Operating Junction Temperature Range	T <sub>OPR</sub>	0-+125	°C
Storage Temperature Range	T <sub>STG</sub>	-55-+150	°C

**ELECTRICAL CHARACTERISTICS (V<sub>i</sub>=11V, I<sub>o</sub>=40mA, C<sub>i</sub>=0.33μF, C<sub>o</sub>=0.1μF, unless otherwise specified )**

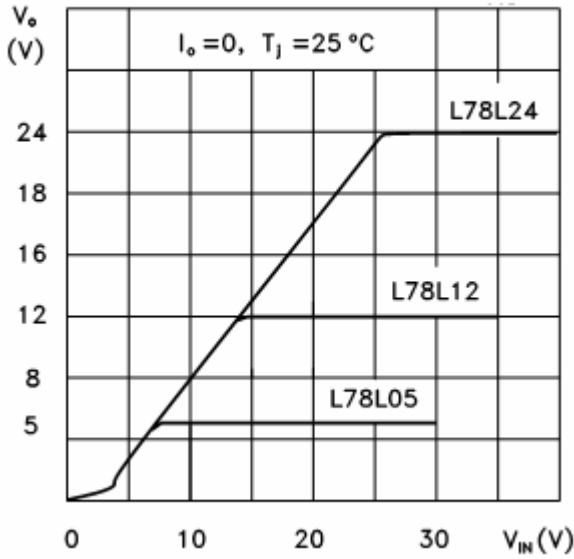
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V <sub>o</sub>	25°C	5.75	6.0	6.25	V	
		0-125°C	8V ≤ V <sub>i</sub> ≤ 20V, I <sub>o</sub> = 1mA-40mA	5.7	6.0	6.3	V
			I <sub>o</sub> = 1mA-70mA	5.7	6.0	6.3	V
Load Regulation	ΔV <sub>o</sub>	I <sub>o</sub> = 1mA-100mA	25°C	16	80	mV	
		I <sub>o</sub> = 1mA-40mA	25°C	9	40	mV	
Line regulation	ΔV <sub>o</sub>	8V ≤ V <sub>i</sub> ≤ 20V	25°C	35	175	mV	
		9V ≤ V <sub>i</sub> ≤ 20V	25°C	29	125	mV	
Quiescent Current	I <sub>q</sub>	25°C	3.9	6.0	mA		
Quiescent Current Change	ΔI <sub>q</sub>	9V ≤ V <sub>i</sub> ≤ 20V	0-125°C		1.5	mA	
	ΔI <sub>q</sub>	1mA ≤ I <sub>o</sub> ≤ 40mA	0-125°C		0.1	mA	
Output Noise Voltage	V <sub>N</sub>	10Hz ≤ f ≤ 100KHz	25°C	46		uV	
Ripple Rejection	RR	9V ≤ V <sub>i</sub> ≤ 19V, f = 120Hz	0-125°C	40	48	dB	
Dropout Voltage	V <sub>d</sub>	25°C		1.7		V	

**TYPICAL APPLICATION**

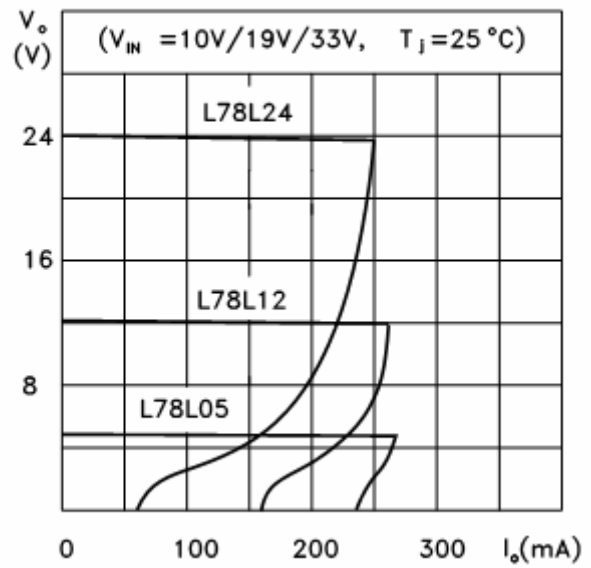


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

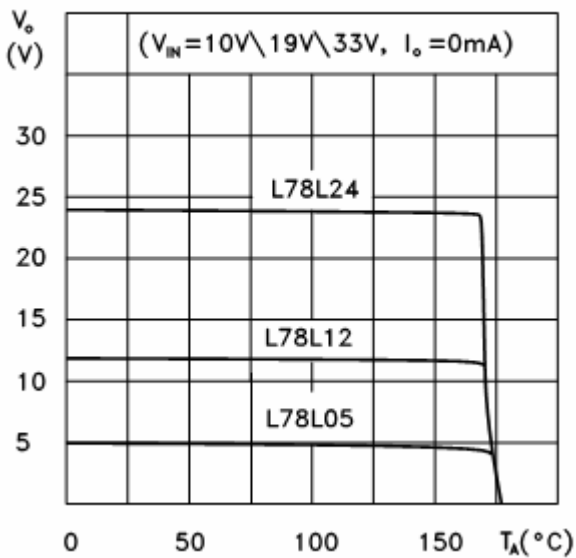
L78L05/12/24 Output Characteristics



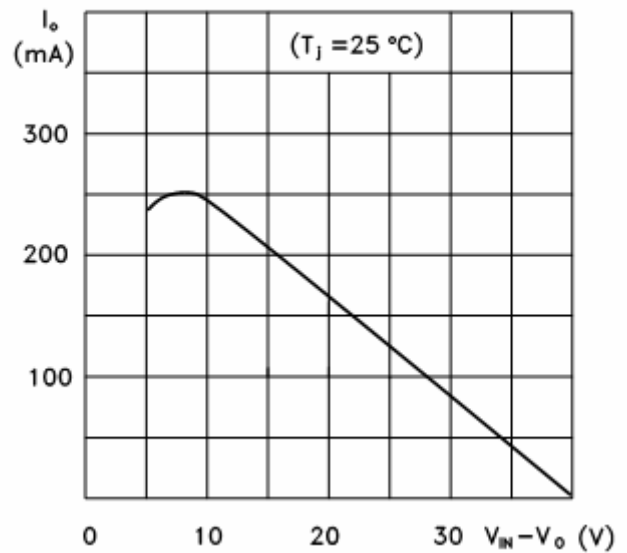
L78L05/12/24 Load Characteristics



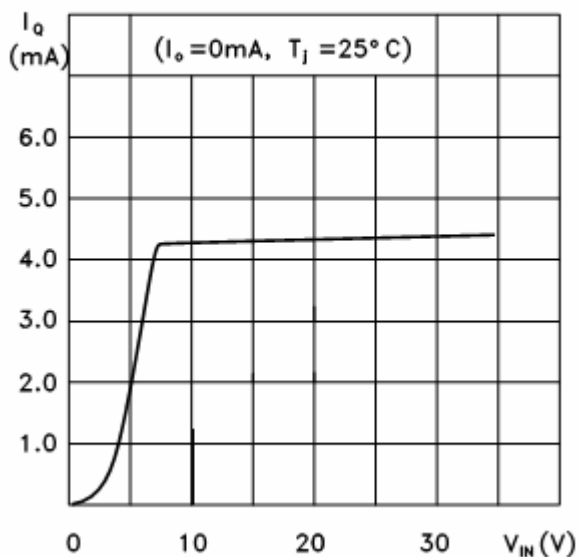
L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage



Power dissipation vs. ambient temperature

