

## TO-92 Encapsulate Three-terminal Voltage Regulator

**78L12**      Three-terminal positive voltage regulator

**FEATURES**

**Maximum Output current**

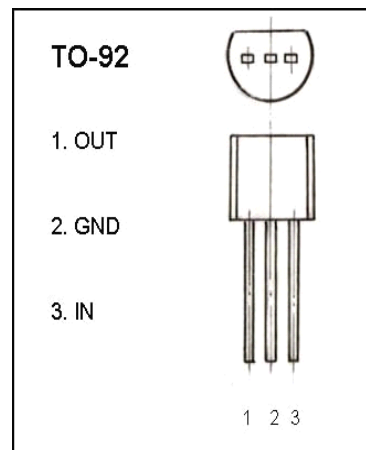
**I<sub>OM</sub>:**      0.1A

**Output voltage**

**V<sub>o</sub>:**      12 V

**Continuous total dissipation**

**P<sub>D</sub>:**      0.625 W



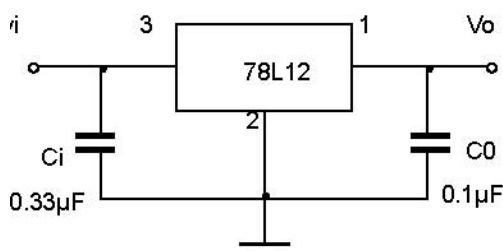
**ABSOLUTE MAXIMUM RATINGS** (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>I</sub>	35	V
Operating Junction Temperature Range	TOPR	0-+125	°C
Storage Temperature Range	TSTG	-55-+150	°C

**ELECTRICAL CHARACTERISTICS** (V<sub>I</sub>=19V, 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	11.5	12	12.5	V	
		14V≤V <sub>I</sub> ≤27V, I <sub>o</sub> =1mA-40mA	0-125°C	11.4	12	12.6	V
		I <sub>o</sub> =1mA-70mA		11.4	12	12.6	V
Load Regulation	ΔV <sub>o</sub>	I <sub>o</sub> =1mA-100mA	25°C	22	100	mV	
		I <sub>o</sub> =1mA-40mA	25°C	13	50	mV	
Line regulation	ΔV <sub>o</sub>	14.5V≤V <sub>I</sub> ≤27V	25°C	55	250	mV	
		16V≤V <sub>I</sub> ≤27V	25°C	49	200	mV	
Quiescent Current	I <sub>q</sub>	25°C		4.3	6.5	mA	
Quiescent Current Change	ΔI <sub>q</sub>	16V≤V <sub>I</sub> ≤27V	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	70		uV	
Ripple Rejection	RR	15V≤V <sub>I</sub> ≤25V, f=120Hz	0-125°C	37	42	dB	
Dropout Voltage	V <sub>d</sub>	25°C		1.7		V	

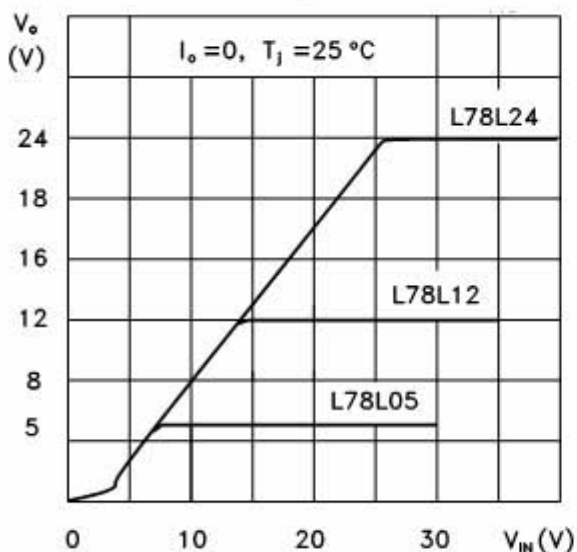
**TYPICAL APPLICATION**



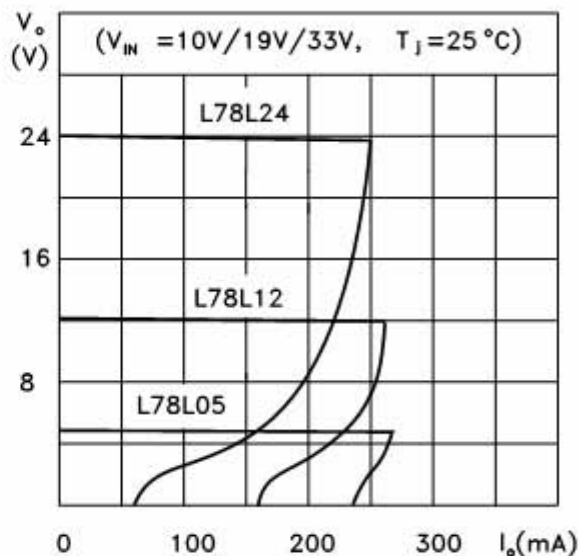
**Note :** Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

### Typical Characteristics

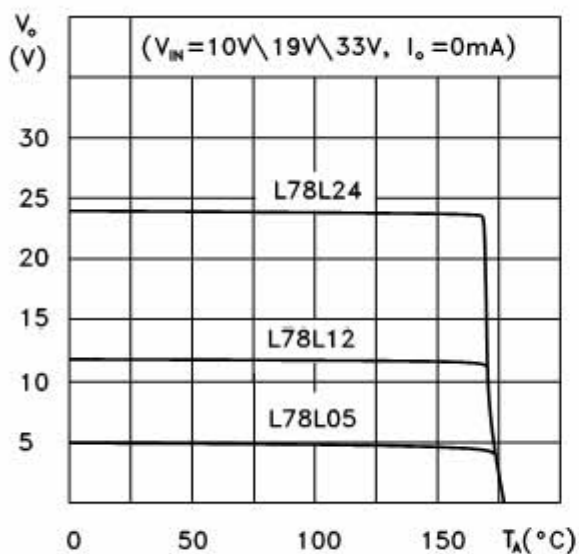
L78L05/12/24 Output Characteristics



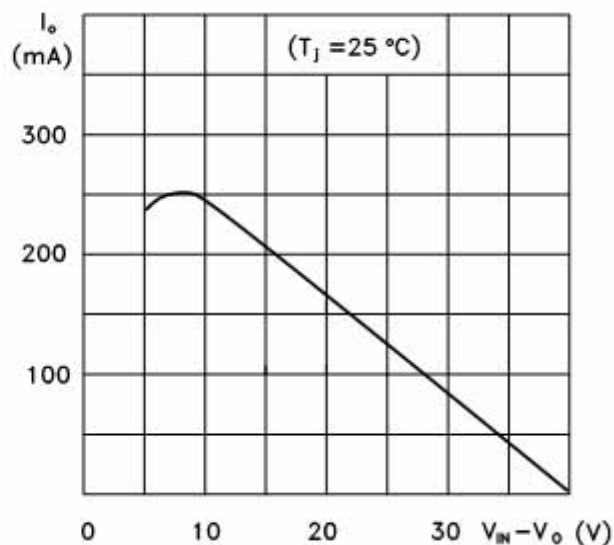
L78L05/12/24 Load Characteristics



L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage

