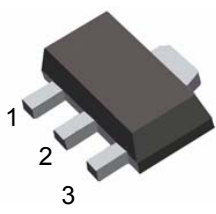
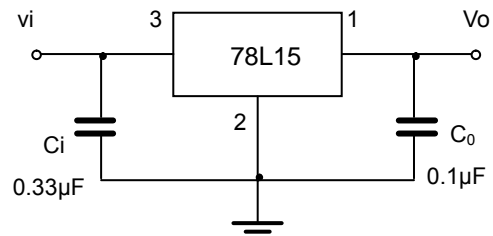


Three-terminal positive voltage regulator	SOT-89 Encapsulate Three-terminal Voltage Regulator
<p style="text-align: center;"><u>SOT-89</u></p> <p>1.OUT 2.GND 3.IN</p> 	<p><b>Features</b></p> <p><b>Maximum Output current</b> I<sub>OM</sub>: <b>0.1 A</b></p> <p><b>V<sub>O</sub>: 15 V</b></p> <p><b>Continuous total dissipation</b> P<sub>D</sub>: <b>0.50 W</b></p>

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	T <sub>OPR</sub>	0-+125	°C
Storage Temperature Range	T <sub>STG</sub>	-55-+150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (V <sub>i</sub> =23V, 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	14.4	15	15.6	V	
		17.5V ≤ V <sub>i</sub> ≤ 30V, I <sub>o</sub> = 1mA-40mA	0-125°C	14.25	15	15.75	V
		V <sub>i</sub> = 23V, I <sub>o</sub> = 1mA-70mA		14.25	15	15.75	V
Load Regulation	ΔV <sub>o</sub>	I <sub>o</sub> = 1mA-100mA, V <sub>i</sub> = 23V	25°C	25	150	mV	
		I <sub>o</sub> = 1mA-40mA, V <sub>i</sub> = 23V	25°C	15	75	mV	
Line regulation	ΔV <sub>o</sub>	17.5V ≤ V <sub>i</sub> ≤ 30V, I <sub>o</sub> = 40mA	25°C	65	300	mV	
		19V ≤ V <sub>i</sub> ≤ 30V, I <sub>o</sub> = 40mA	25°C	58	250	mV	
Quiescent Current	I <sub>q</sub>	25°C	4.6	6.5	mA		
Quiescent Current Change	ΔI <sub>q</sub>	19V ≤ V <sub>i</sub> ≤ 30V, I <sub>o</sub> = 40mA	0-125°C		1.5	mA	
	ΔI <sub>q</sub>	1mA ≤ I <sub>o</sub> ≤ 40mA, V <sub>i</sub> = 23V	0-125°C		0.1	mA	
Output Noise Voltage	V <sub>N</sub>	10Hz ≤ f ≤ 100KHz	25°C	82		μV	
Ripple Rejection	RR	18.5V ≤ V <sub>i</sub> ≤ 28.5V, f = 120Hz	0-125°C	34	39	dB	
Dropout Voltage	V <sub>d</sub>	25°C	1.7			V	

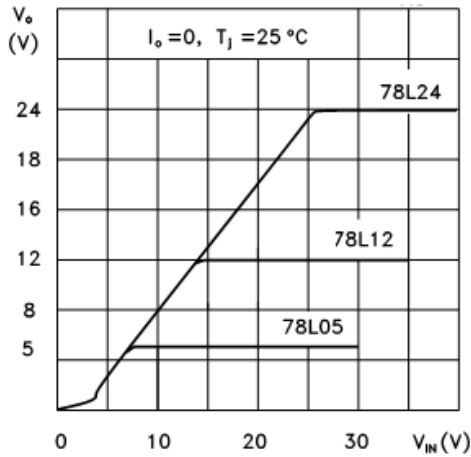
**TYPICAL APPLICATION**



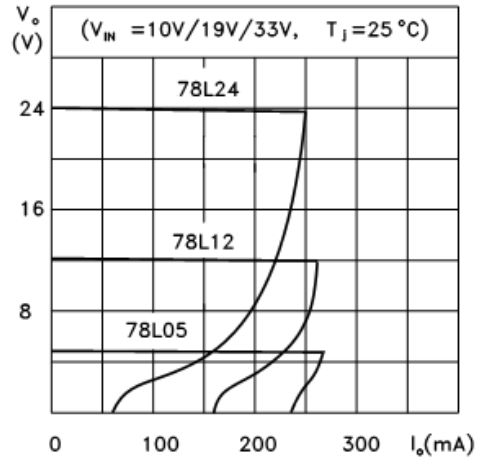
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

**Typical Characteristics**

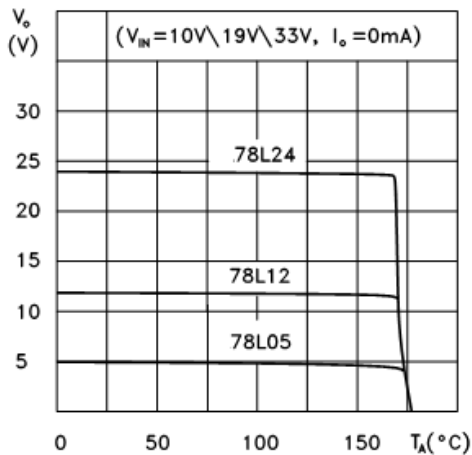
78L05/12/24 Output Characteristics



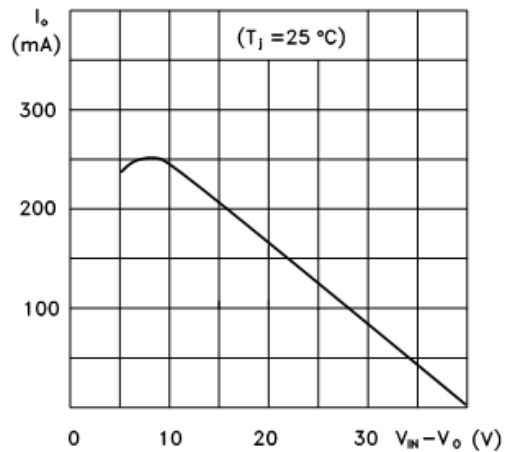
78L05/12/24 Load Characteristics



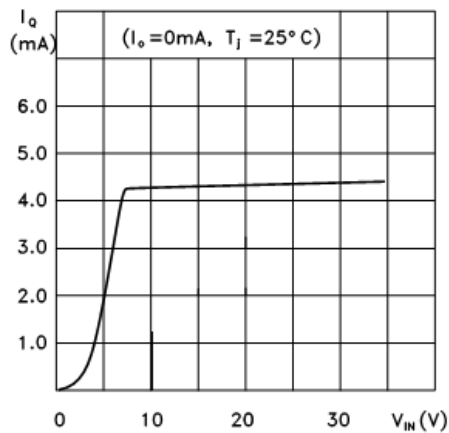
78L05/12/24 Thermal Shutdown



78L00 Series Short Circuit Output Current



78L05 Quiescent Current vs Input Voltage



PD-TA

