

## SOT-89 Encapsulate Three Terminal Voltage Regulator

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

### FEATURES

Maximum Output current

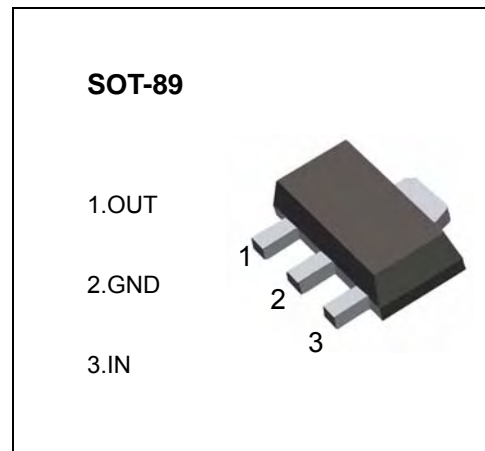
$I_{OM}$ : 0.1 A

Output voltage

$V_o$ : 6 V

Continuous total dissipation

$P_D$ : 0.5W



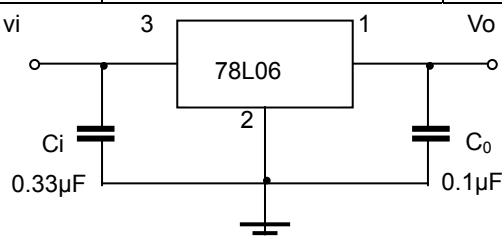
### ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Units
Input Voltage	$V_i$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0-+125	°C
Storage Temperature Range	$T_{STG}$	-55-+150	°C

### ELECTRICAL CHARACTERISTICS ( $V_i=11V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$ , unless otherwise specified)

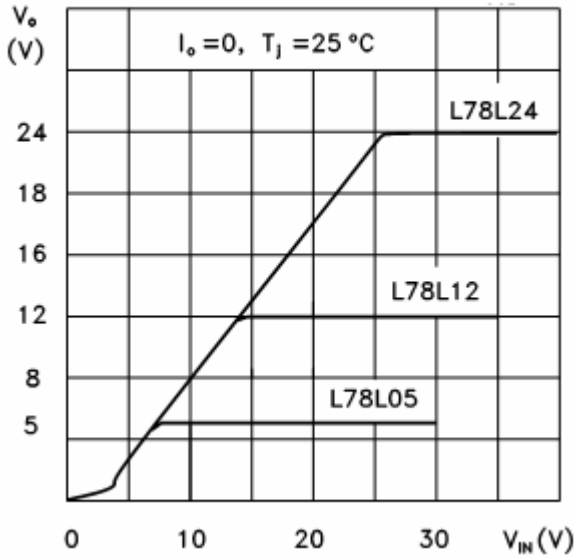
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	$V_o$	25°C	5.75	6.0	6.25	V	
		0-125°C	$8V \leq V_i \leq 20V, I_o=1mA-40mA$	5.7	6.0	6.3	V
			$I_o=1mA-70mA$	5.7	6.0	6.3	V
Load Regulation	$\Delta V_o$	$I_o=1mA-100mA$	25°C	16	80	mV	
		$I_o=1mA-40mA$	25°C	9	40	mV	
Line regulation	$\Delta V_o$	$8V \leq V_i \leq 20V$	25°C	35	175	mV	
		$9V \leq V_i \leq 20V$	25°C	29	125	mV	
Quiescent Current	$I_q$	25°C	3.9	6.0	mA		
Quiescent Current Change	$\Delta I_q$	$9V \leq V_i \leq 20V$	0-125°C		1.5	mA	
	$\Delta I_q$	$1mA \leq I_o \leq 40mA$	0-125°C		0.1	mA	
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$	25°C	46		uV	
Ripple Rejection	RR	$9V \leq V_i \leq 19V, f=120Hz$	0-125°C	40	48	dB	
Dropout Voltage	$V_d$	25°C		1.7		V	

### TYPICAL APPLICATION

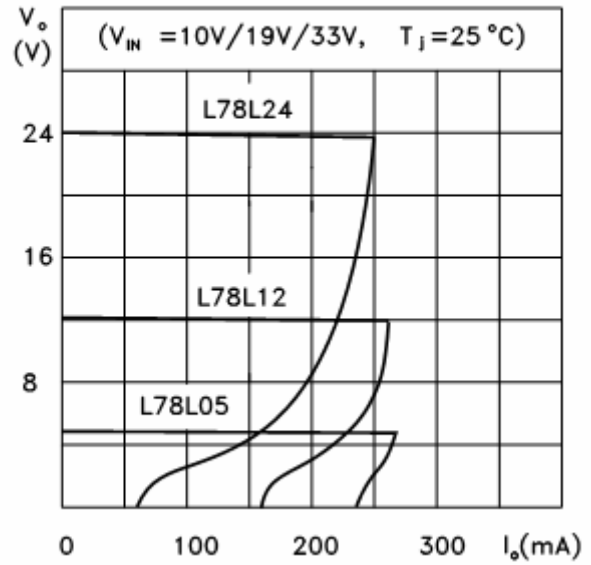


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

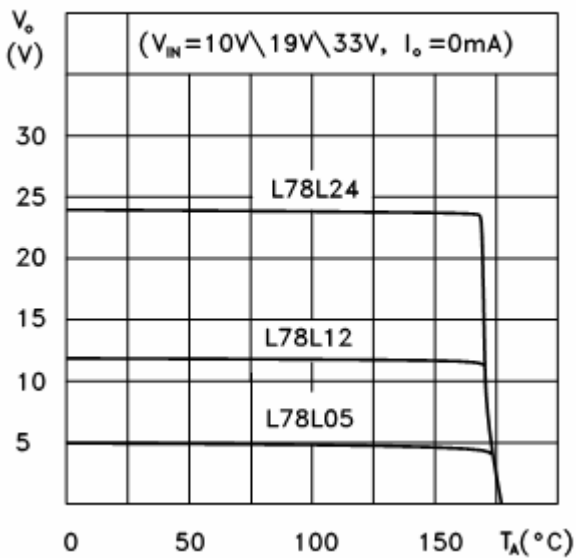
L78L05/12/24 Output Characteristics



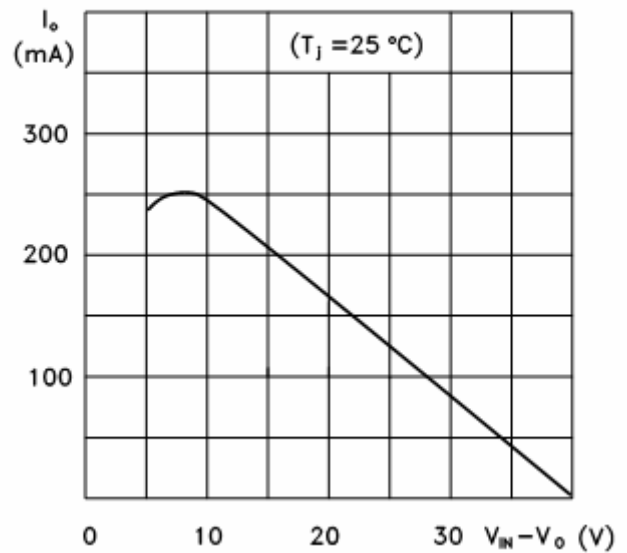
L78L05/12/24 Load Characteristics



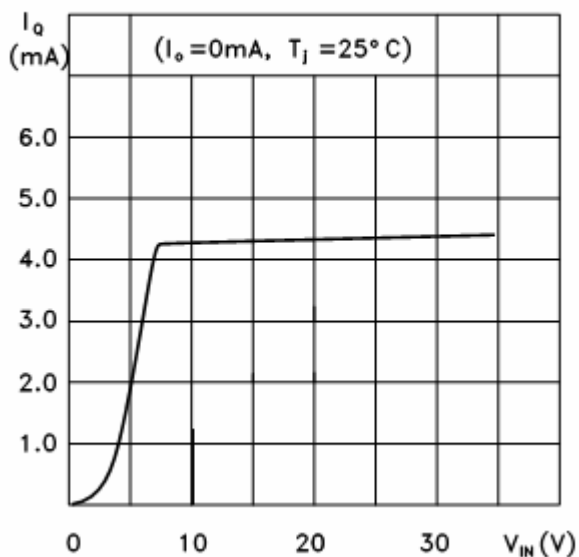
L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage



Power dissipation vs. ambient temperature

