

# 78L12 Three-terminal positive voltage regulator

## FEATURES

Maximum Output current

$I_{OM}$ : 0.1 A

Output voltage

$V_o$ : 12 V

Continuous total dissipation

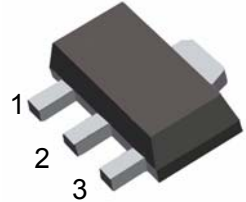
$P_D$ : 0.50 W

## SOT-89

1.OUT

2.GND

3.IN



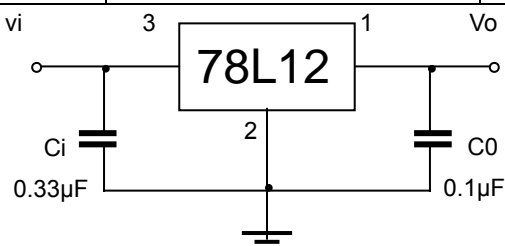
## ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	35	V
Operating Junction Temperature Range	$T_{OPR}$	0-+125	°C
Storage Temperature Range	$T_{STG}$	-55-+150	°C

## ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_I=19V$ , $I_o=40mA$ , $C_i=0.33\mu F$ , $C_o=0.1\mu F$ , unless otherwise specified )

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$25^{\circ}C$	11.5	12	12.5	V
		$14V \leq V_I \leq 27V$ , $I_o=1mA-40mA$	11.4	12	12.6	V
		$I_o=1mA-70mA$	11.4	12	12.6	V
Load Regulation	$\Delta V_o$	$I_o=1mA-100mA$	$25^{\circ}C$	22	100	mV
		$I_o=1mA-40mA$	$25^{\circ}C$	13	50	mV
Line regulation	$\Delta V_o$	$14.5V \leq V_I \leq 27V$	$25^{\circ}C$	55	250	mV
		$16V \leq V_I \leq 27V$	$25^{\circ}C$	49	200	mV
Quiescent Current	$I_q$	$25^{\circ}C$		4.3	6.5	mA
Quiescent Current Change	$\Delta I_q$	$16V \leq V_I \leq 27V$	$0-125^{\circ}C$		1.5	mA
	$\Delta I_q$	$1mA \leq I_o \leq 40mA$	$0-125^{\circ}C$		0.1	mA
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$	$25^{\circ}C$	70		$\mu V$
Ripple Rejection	RR	$15V \leq V_I \leq 25V$ , $f=120Hz$	$0-125^{\circ}C$	37	42	dB
Dropout Voltage	$V_d$	$25^{\circ}C$		1.7		V

## TYPICAL APPLICATION

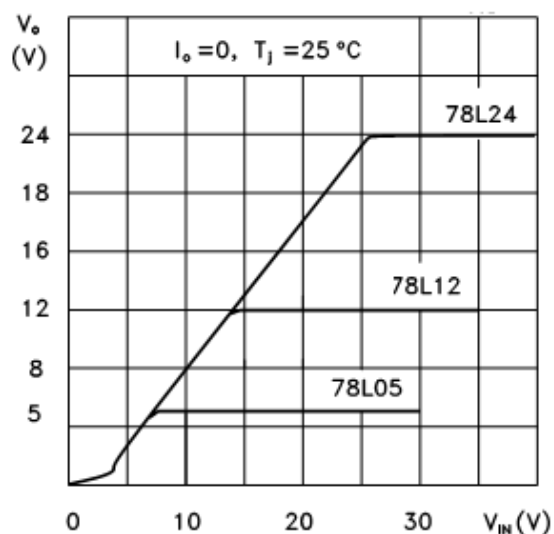


Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

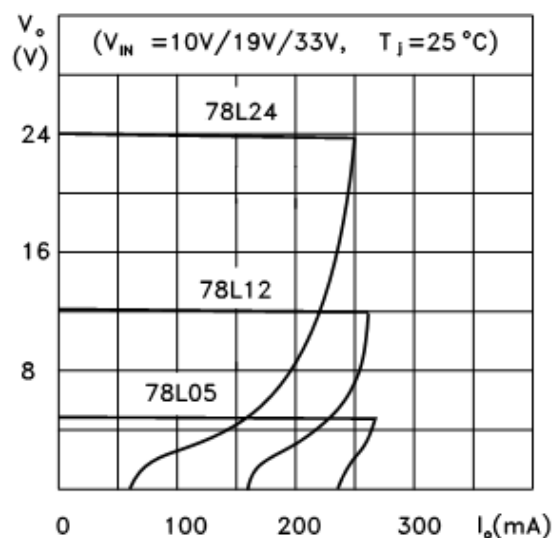
# Typical Characteristics

78L12

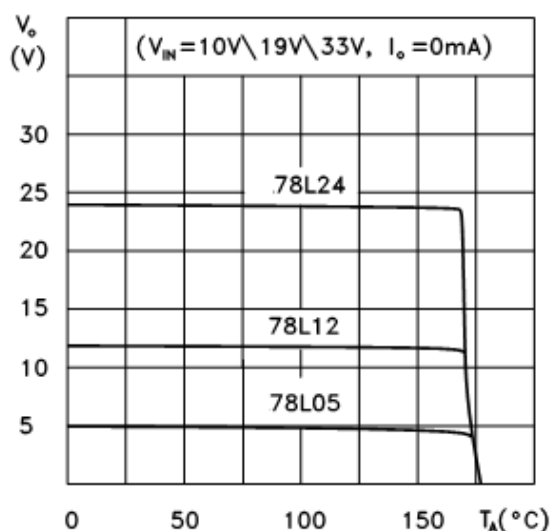
78L05/12/24 Output Characteristics



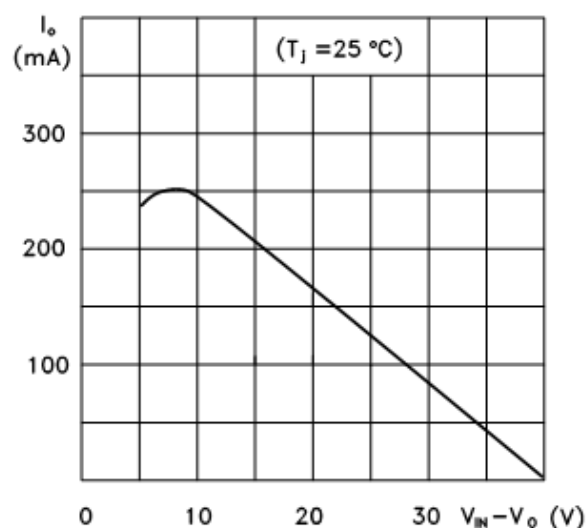
78L05/12/24 Load Characteristics



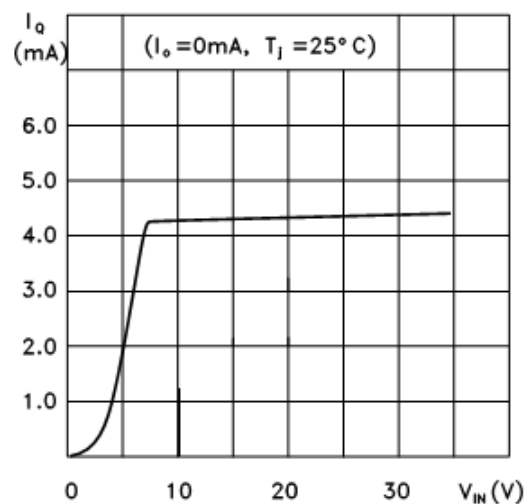
78L05/12/24 Thermal Shutdown



78L00 Series Short Circuit Output Current



78L05 Quiescent Current vs Input Voltage



PD-TA

