

THREE-TERMINAL POSITIVE VOLTAGE REGULATOR

SOT-89

FEATURES

Maximum Output current

I_{OM} : 0.1 A

Output voltage

V_o : 12 V

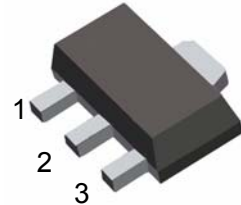
Continuous total dissipation

P_D : 0.50 W

1.OUT

2.GND

3.IN



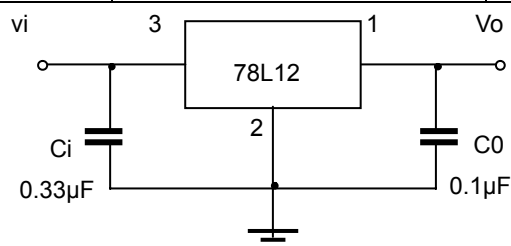
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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 ($V_i=19V$, $I_o=40mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$, unless otherwise specified)

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

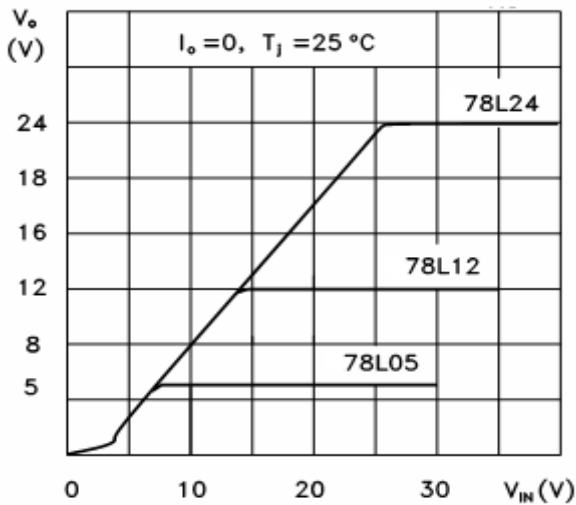
TYPICAL APPLICATION



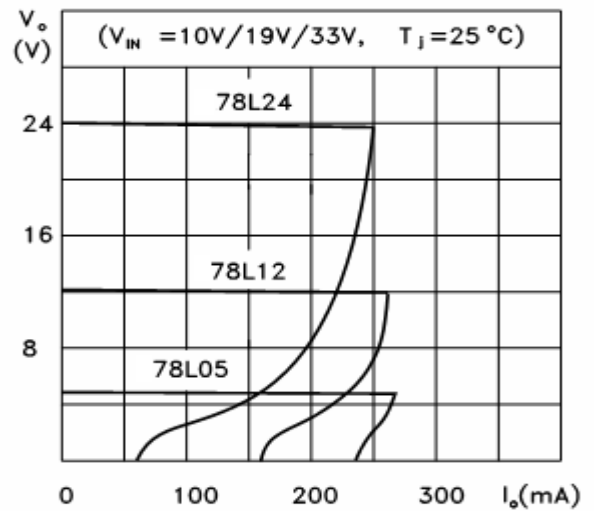
Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

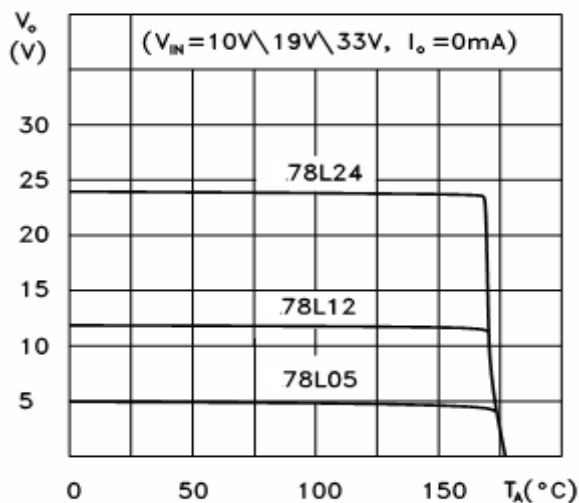
78L05/12/24 Output Characteristics



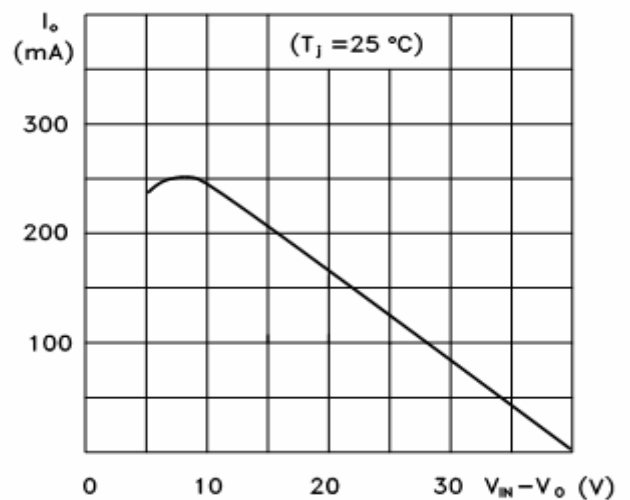
78L05/12/24 Load Characteristics



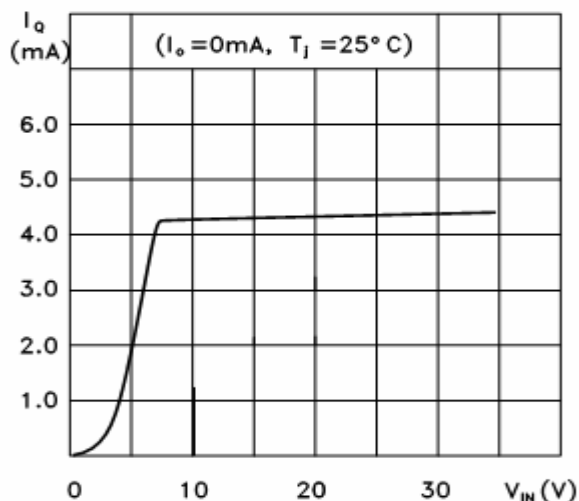
78L05/12/24 Thermal Shutdown



78L00 Series Short Circuit Output Current



78L05 Quiescent Current vs Input Voltage



Power dissipation vs. ambient temperature

