

LM78L15 Three-terminal positive voltage regulator

FEATURES

Maximum Output current

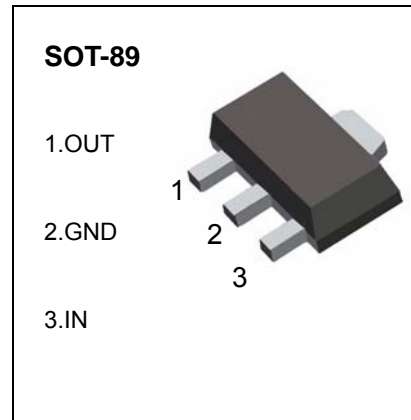
I_{OM} : 0.1 A

Output voltage

V_O : 15 V

Continuous total dissipation

P_D : 0.50 W



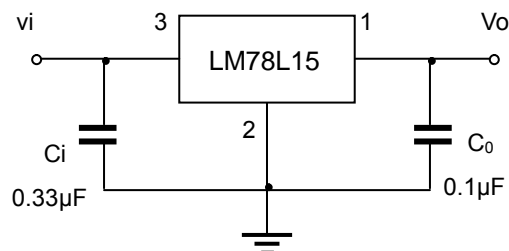
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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 ($V_i=23V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V_o		25°C	14.4	15	15.6	V
		$17.5V \leq V_i \leq 30V, I_o=1mA-40mA$	0-125°C	14.25	15	15.75	V
		$V_i=23V, I_o=1mA-70mA$		14.25	15	15.75	V
Load Regulation	ΔV_o	$I_o=1mA-100mA, V_i=23V$	25°C		25	150	mV
		$I_o=1mA-40mA, V_i=23V$	25°C		15	75	mV
Line regulation	ΔV_o	$17.5V \leq V_i \leq 30V, I_o=40mA$	25°C		65	300	mV
		$19V \leq V_i \leq 30V, I_o=40mA$	25°C		58	250	mV
Quiescent Current	I_q		25°C		4.6	6.5	mA
Quiescent Current Change	ΔI_q	$19V \leq V_i \leq 30V, I_o=40mA$	0-125°C			1.5	mA
	ΔI_q	$1mA \leq I_o \leq 40mA, V_i=23V$	0-125°C			0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	25°C		82		μV
Ripple Rejection	RR	$18.5V \leq V_i \leq 28.5V, f=120Hz$	0-125°C	34	39		dB
Dropout Voltage	V_d		25°C		1.7		V

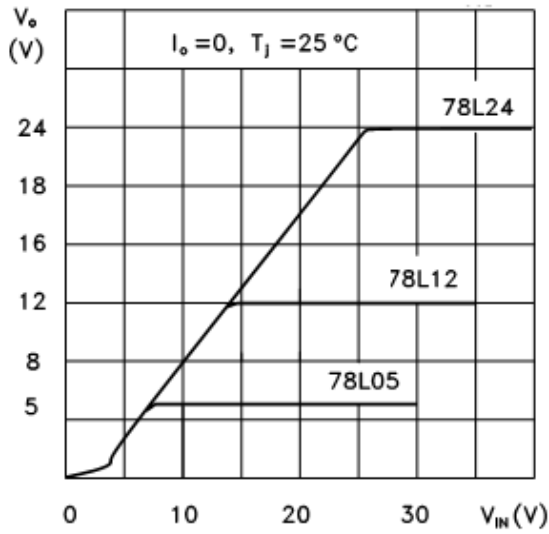
TYPICAL APPLICATION



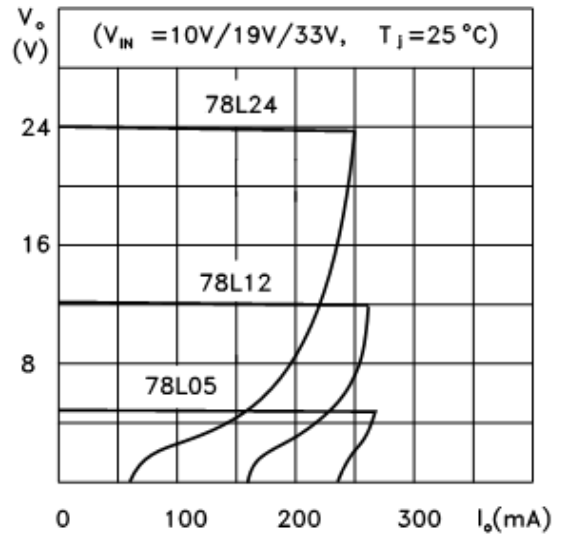
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

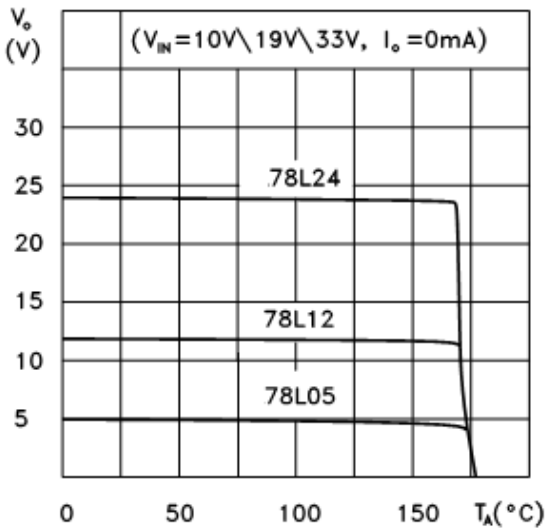
78L05/12/24 Output Characteristics



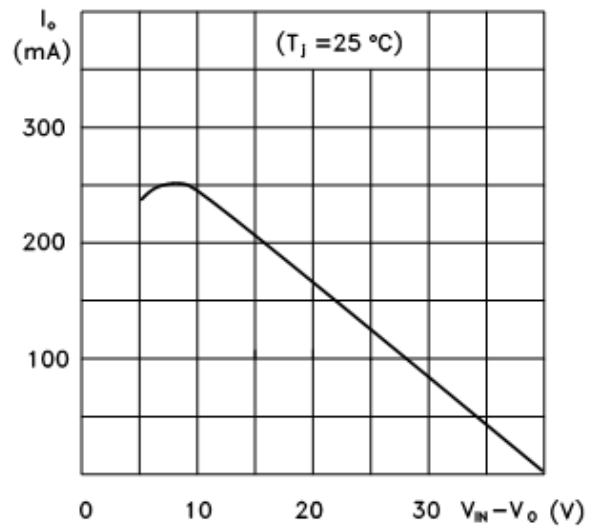
78L05/12/24 Load Characteristics



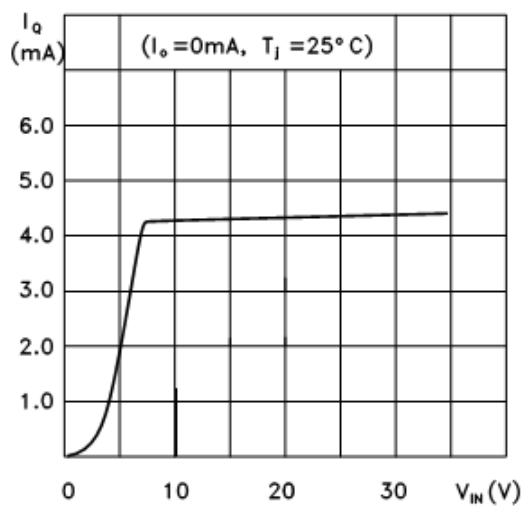
78L05/12/24 Thermal Shutdown



78L00 Series Short Circuit Output Current



78L05 Quiescent Current vs Input Voltage



PD-TA

