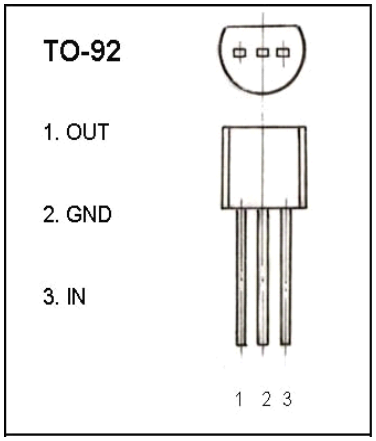
T0-92Encapsulate Three-terminal Voltage Regulator



WS78L15 **Three-terminal positive voltage regulator**

FEATURES

Maximum Output current

I_{OM}: 0.1 A

Output voltage

V_O: 15V

Continuous total dissipation

P_D: 0.625 W

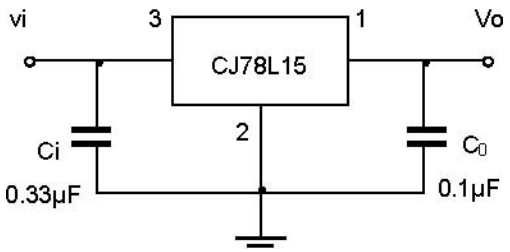
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS (Vi=23V, Io=40mA, Ci=0.33μF,Co=0.1μF,unless otherwise specified)

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	V_o		25℃	14.4	15	15.6	V
		17.5V≤Vi≤30V,Io=1mA-40mA	0-125℃	14.25	15	15.75	V
		Vi=23V, Io=1mA-70mA		14.25	15	15.75	V
Load Regulation	△Vo	Io=1mA-100mA, Vi=23V	25℃		25	150	mV
		Io=1mA-40mA, Vi=23V	25℃		15	75	mV
Line regulation	△Vo	17.5V≤Vi≤30V,Io=40mA	25℃		65	300	mV
		19V≤Vi≤30V,Io=40mA	25℃		58	250	mV
Quiescent Current	I_q		25℃		4.6	6.5	mA
Quiescent Current Change	$\triangle I_q$	19V≤Vi≤30V, Io=40mA	0-125℃			1.5	mA
	△Iq	1mA≤I O≤40mA, Vi=23V	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		82		μV
Ripple Rejection	RR	18.5V≤Vi≤28.5V,f=120Hz	0-125℃	34	39		dB
Dropout Voltage	Vd		25℃		1.7		V

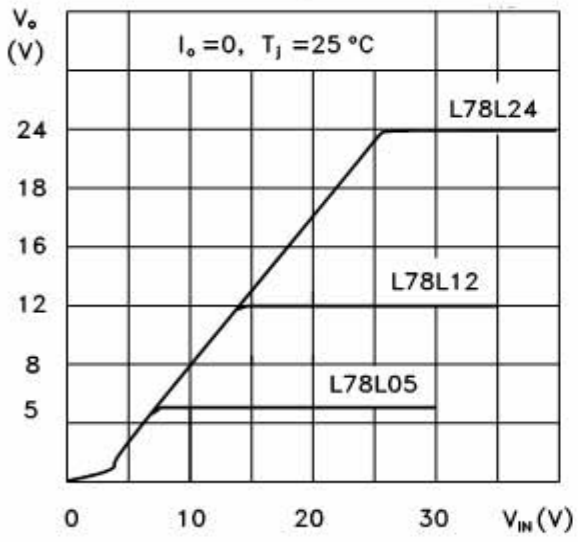
TYPICAL APPLICATION



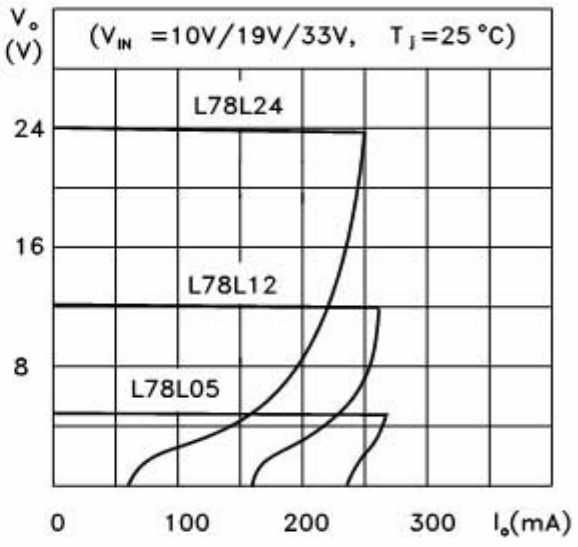
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics **WS78LXX**

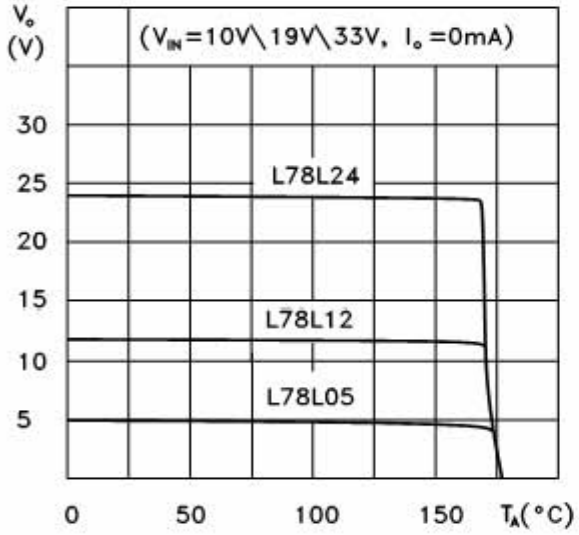
L78L05/12/24 Output Characteristics



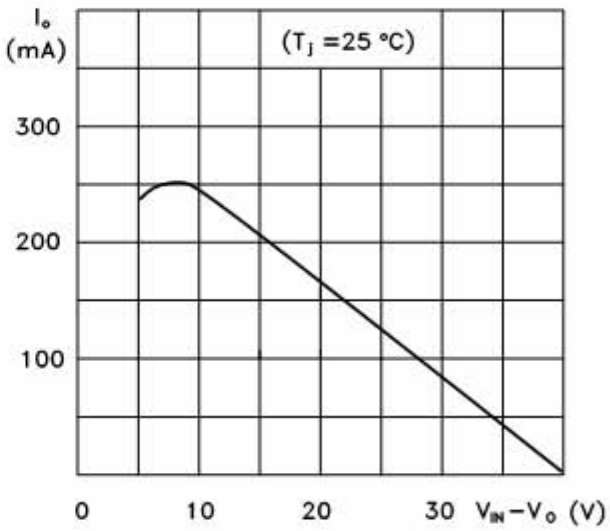
L78L05/12/24 Load Characteristics



L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage