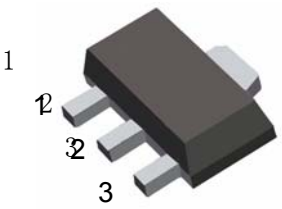
TIGER ELECTRONIC CO.,LTD

SOT-89 Encapsulate Three Terminal Voltage Regulator

LM78L08F Three-terminal positive voltage regulator

SOT-89

1. OUT
2. GND
3. IN



FEATURES

Maximum Output current
$I_{OM:}$ 0.1 A
Output voltage
V_o: 8 V
Continuous total dissipation
P_D: 0. 5W

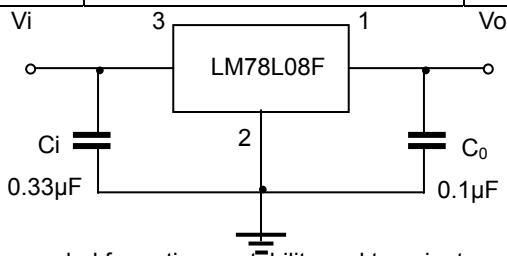
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Units
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0~+125	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

ELECTRICAL CHARACTERISTICS (Vi=14V, Io=40mA,C_i=0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	7.7	8.0	8.3	V
		10.5V≤V_I≤23V, Io=1mA~40mA	0-125℃	7.6	8.0	8.4	V
		Io=1mA~70mA		7.6	8.0	8.4	V
Load Regulation	ΔVo	Io=1mA~100mA	25℃		18	80	mV
		Io=1mA~40mA	25℃		10	40	mV
Line regulation	ΔVo	10.5V≤V_I≤23V	25℃		42	175	mV
		11V≤V_I≤23V	25℃		36	125	mV
Quiescent Current	Iq		25℃		4	6	mA
Quiescent Current Change	ΔIq	11V≤V_I≤23V	0-125℃			1.5	mA
	ΔIq	1mA≤I_O≤40mA	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		54		uV
Ripple Rejection	RR	13V≤V_I≤23V,f=120Hz	0-125℃	37	46		dB
Dropout Voltage	Vd		25℃		1.7		V

TYPICAL APPLICATION

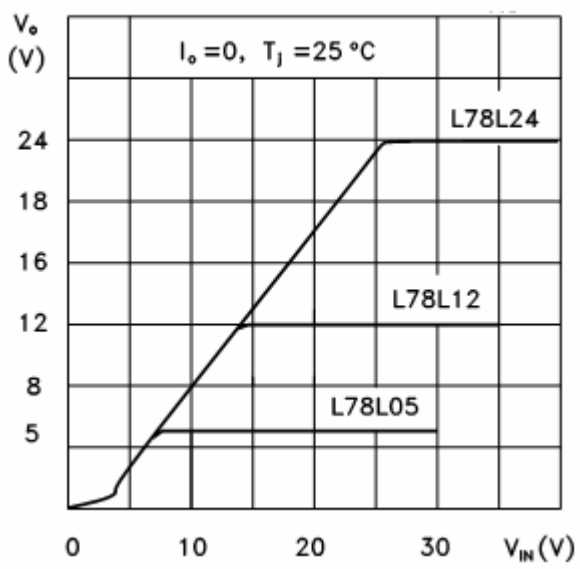


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

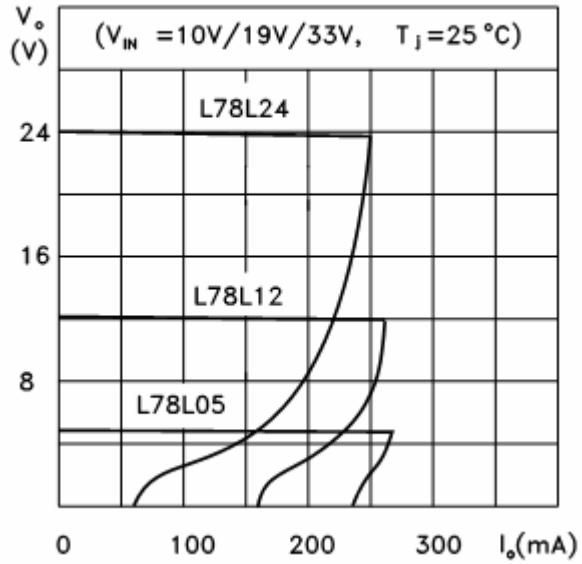
Typical Characteristics

LM78LXX

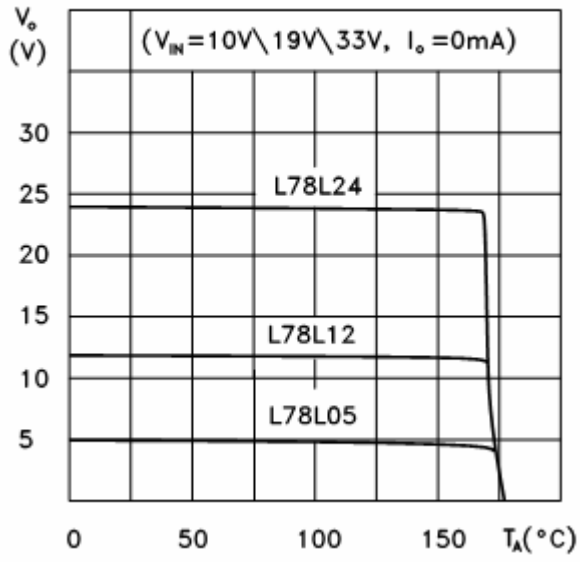
L78L05/12/24 Output Characteristics



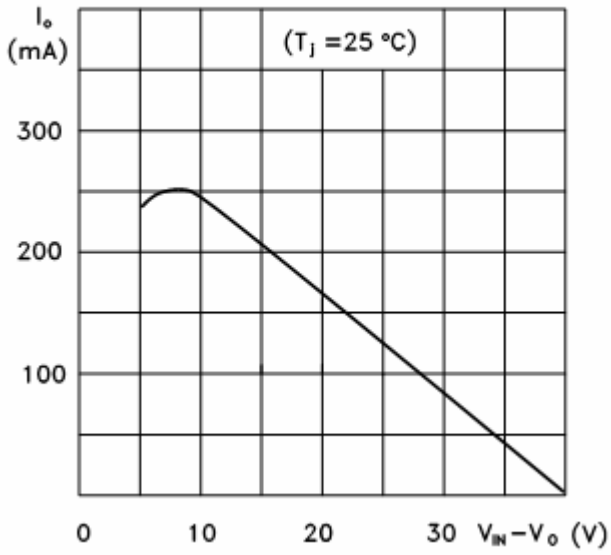
L78L05/12/24 Load Characteristics



L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage