

SOT-23 Encapsulate Three Terminal Voltage Regulator

78L05 Three-terminal positive voltage regulator

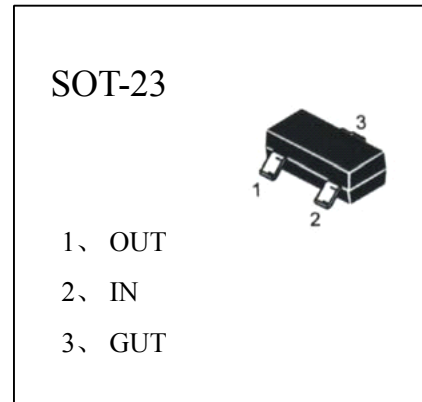
FEATURES

Maximum Output current IO: 0.1 A

Output voltage Vo: 5 V

Continuous total dissipation

PD: 0.35 W (Ta= 25 °C)



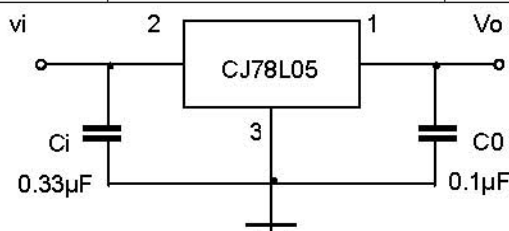
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	0~+125	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS ($V_i=10V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V_o	$25^\circ C$	4.8	5.0	5.2	V	
		0-125°C	$7V \leq V_i \leq 20V, I_o = 1mA \sim 40mA$	4.75	5.0	5.25	V
			$I_o = 1mA \sim 70mA$	4.75	5.0	5.25	V
Load Regulation	ΔV_o	$I_o = 1mA \sim 100mA$	$25^\circ C$	15	60	mV	
		$I_o = 1mA \sim 40mA$	$25^\circ C$	8	30	mV	
Line regulation	ΔV_o	$7V \leq V_i \leq 20V$		32	150	mV	
		$8V \leq V_i \leq 20V$	$25^\circ C$	26	100	mV	
Quiescent Current	I_q	$25^\circ C$		3.8	6	mA	
Quiescent Current Change	ΔI_q	$8V \leq V_i \leq 20V$	0-125°C		1.5	mA	
		$1mA \leq I_o \leq 40mA$	0-125°C		0.1	mA	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	$25^\circ C$	42		uV	
Ripple Rejection	RR	$8V \leq V_i \leq 20V, f=120Hz$	0-125°C	41	49	dB	
Dropout Voltage	V_d	$25^\circ C$		1.7		V	

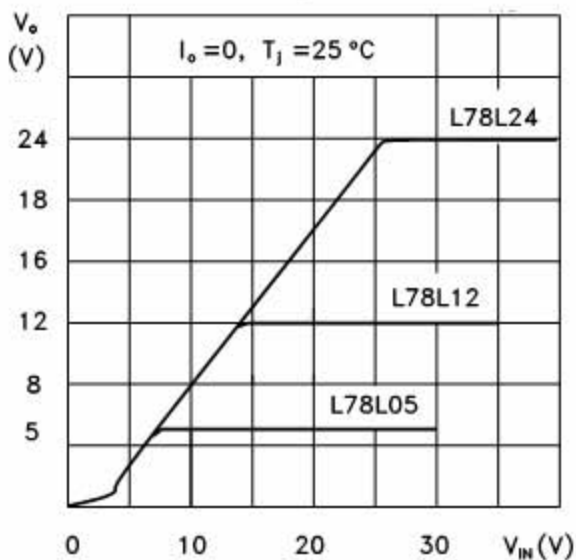
TYPICAL APPLICATION



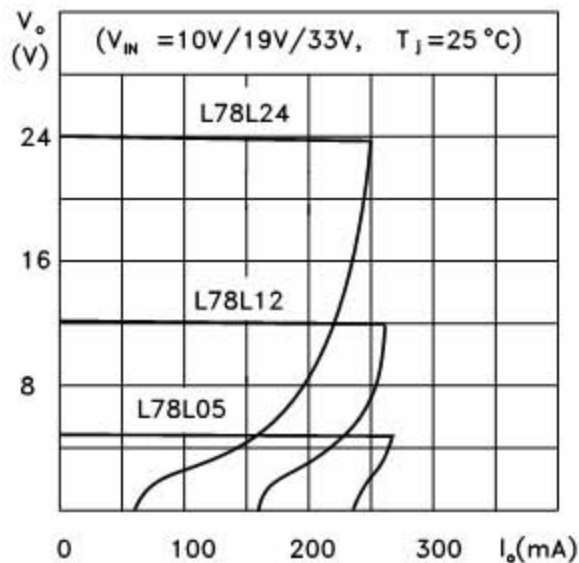
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as

Typical Characteristics

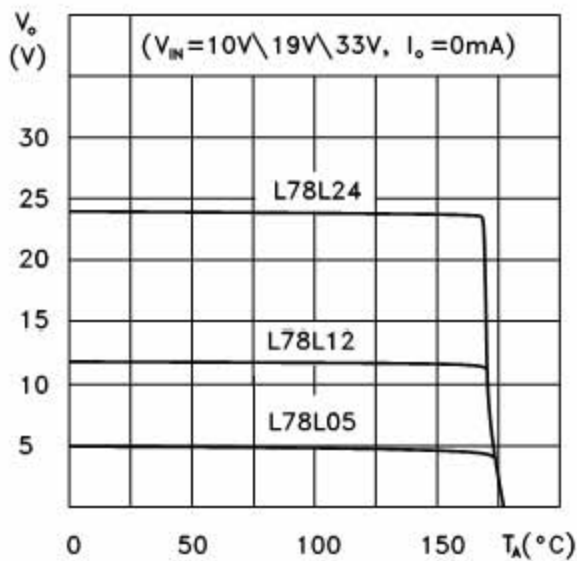
L78L05/12/24 Output Characteristics



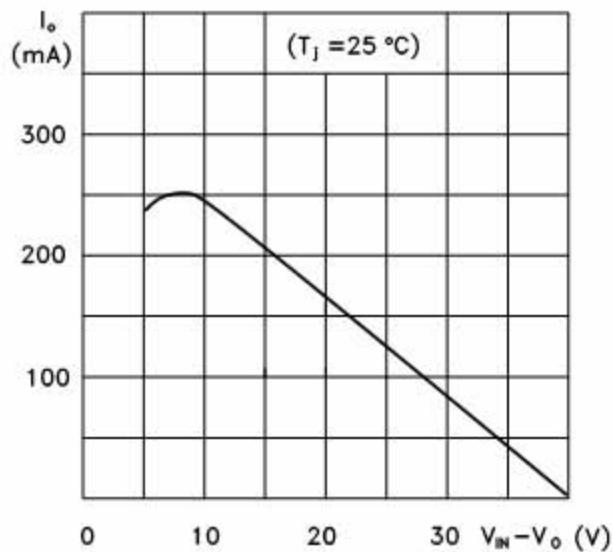
L78L05/12/24 Load Characteristics



L78L05/12/24 Thermal Shutdown



L78L00 Series Short Circuit Output Current



L78L05 Quiescent Current vs Input Voltage

