

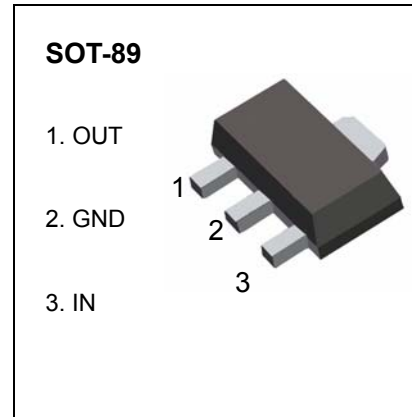


SOT-89 Encapsulate Three Terminal Voltage Regulator

78L05 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_o : 0.1 A
- Output voltage V_o : 5 V
- Continuous total dissipation
 P_D : 0.5 W ($T_a = 25^\circ\text{C}$)



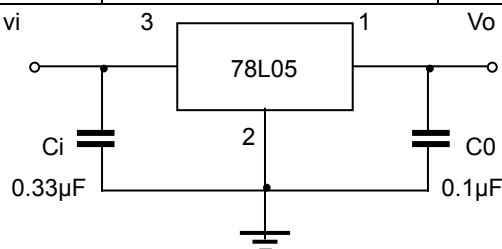
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

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

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