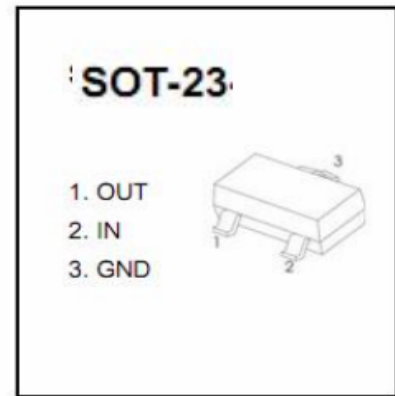




SOT- 23 Encapsulate Three Terminal Voltage Regulators

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 ($T_a = 25\text{ }^\circ\text{C}$)

MARING : L05

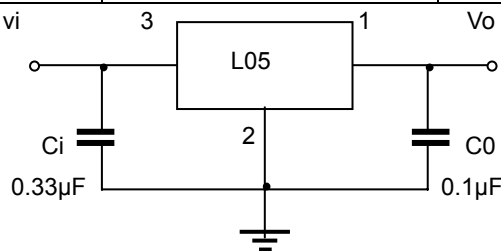
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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	$I_o = 1mA \sim 100mA, 25^\circ\text{C}$		15	60	mV	
		$I_o = 1mA \sim 40mA, 25^\circ\text{C}$		8	30	mV	
Line regulation	ΔV_o	$7V \leq V_i \leq 20V$		32	150	mV	
		$8V \leq V_i \leq 20V, 25^\circ\text{C}$		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	
		$1mA \leq I_o \leq 40mA, 0-125^\circ\text{C}$			0.1	mA	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz, 25^\circ\text{C}$		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.