

Three-terminal positive voltage regulator

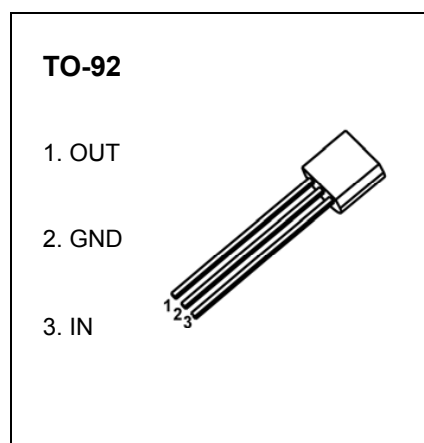
FEATURES

Maximum Output Current I_O : 0.1 A

Output Voltage V_O : 5 V

Continuous Total Dissipation

P_D : 0.625W ($T_a=25^\circ\text{C}$)



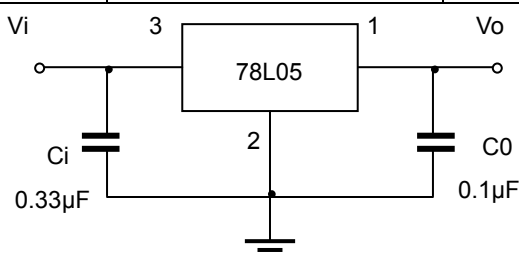
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, 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 $^\circ\text{C}$	$7\text{V} \leq V_i \leq 20\text{V}, I_o=1\text{mA} \sim 40\text{mA}$	4.75	5.0	5.25	V
			$I_o=1\text{mA} \sim 70\text{mA}$	4.75	5.0	5.25	V
Load Regulation	ΔV_o	$I_o=1\text{mA} \sim 100\text{mA}$	25°C	15	60	mV	
		$I_o=1\text{mA} \sim 40\text{mA}$	25°C	8	30	mV	
Line regulation	ΔV_o	$7\text{V} \leq V_i \leq 20\text{V}$		32	150	mV	
		$8\text{V} \leq V_i \leq 20\text{V}$	25°C	26	100	mV	
Quiescent Current	I_q	25°C		3.8	6	mA	
Quiescent Current Change	ΔI_q	$8\text{V} \leq V_i \leq 20\text{V}$	0-125 $^\circ\text{C}$		1.5	mA	
	ΔI_q	$1\text{mA} \leq V_i \leq 40\text{mA}$	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	$8\text{V} \leq V_i \leq 20\text{V}, f=120\text{Hz}$	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.