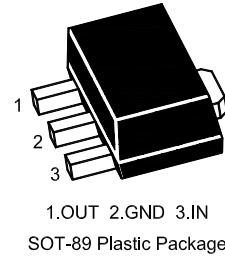


78L05U

3-Terminal Positive Voltage Regulator



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

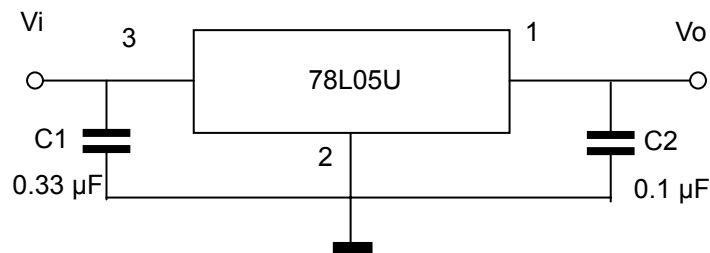
Parameter	Symbol	Rating	Unit
Input Voltage	V_I	30	V
Power Dissipation	P_{tot}	800 ¹⁾	mW
Operating Temperature	T_{opr}	- 20 to + 120	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 55 to +150	$^{\circ}\text{C}$

¹⁾ 15 mm X 25 mm X 0.7 mm alumina ceramic board, $T_a \leq 25\text{ }^{\circ}\text{C}$

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

(Unless otherwise specified, $0\text{ }^{\circ}\text{C} \leq T_J \leq 125\text{ }^{\circ}\text{C}$, $V_I = 10\text{ V}$, $I_O = 40\text{ mA}$, $C_1 = 0.33\text{ }\mu\text{F}$, $C_O = 0.1\text{ }\mu\text{F}$)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_O	$T_J = 25\text{ }^{\circ}\text{C}$	4.8	5	5.2	V
		$7\text{ V} \leq V_I \leq 20\text{ V}$, $1\text{ mA} \leq I_O \leq 40\text{ mA}$	4.75	-	5.25	V
		$V_I = 10\text{ V}$, $1\text{ mA} \leq I_O \leq 70\text{ mA}$	4.75	-	5.25	V
Line Regulation	Regline	$7\text{ V} \leq V_I \leq 20\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	150	mV
		$8\text{ V} \leq V_I \leq 20\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	100	
Load Regulation	Regload	$1\text{ mA} \leq I_O \leq 100\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	60	mV
		$1\text{ mA} \leq I_O \leq 40\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	30	
Quiescent Current	I_Q	$T_J = 25\text{ }^{\circ}\text{C}$	-	-	5.5	mA
Quiescent Current Change	ΔI_Q	$8\text{ V} \leq V_I \leq 20\text{ V}$	-	-	1.5	mA
		$1\text{ mA} \leq I_O \leq 40\text{ mA}$	-	-	0.1	
Output Noise Voltage	V_N	$10\text{ Hz} \leq f \leq 100\text{ KHz}$, $T_J = 25\text{ }^{\circ}\text{C}$	-	40	-	μV
Ripple Rejection	RR	$f = 120\text{ Hz}$, $8\text{ V} \leq V_I \leq 18\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$	41	-	-	dB
Dropout Voltage	V_{Drop}	$T_J = 25\text{ }^{\circ}\text{C}$	-	1.7	-	V



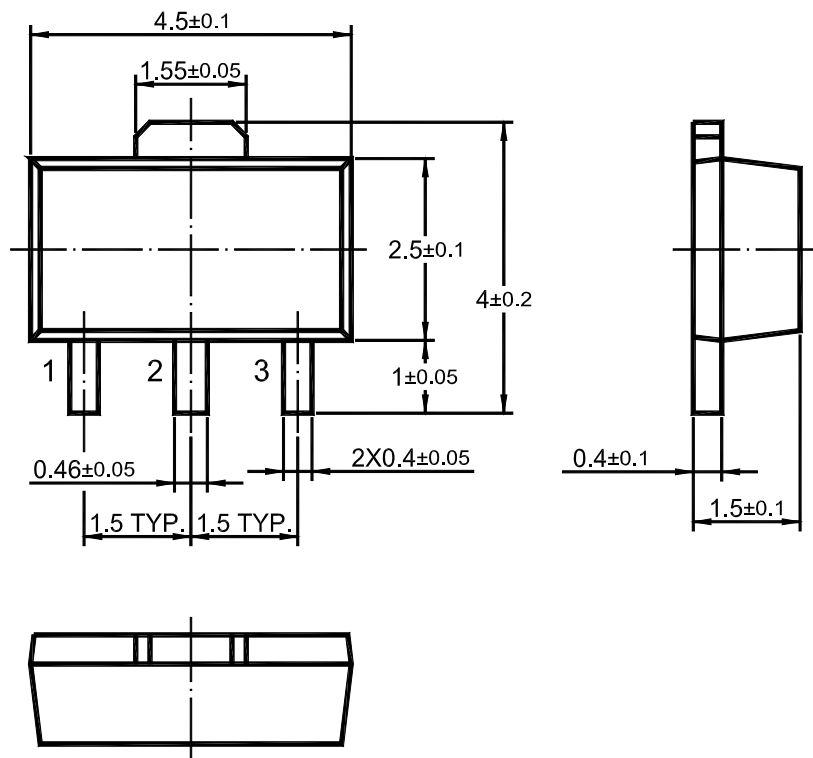


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78L05U

SOT-89 PACKAGE OUTLINE



Dimensions in mm