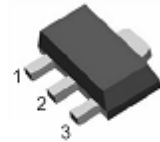


# ST 78L05U (SOT-89)

3-Terminal positive voltage regulator

1. OUT
2. GND
3. IN



SOT-89 Plastic Package

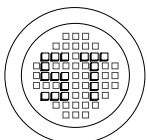
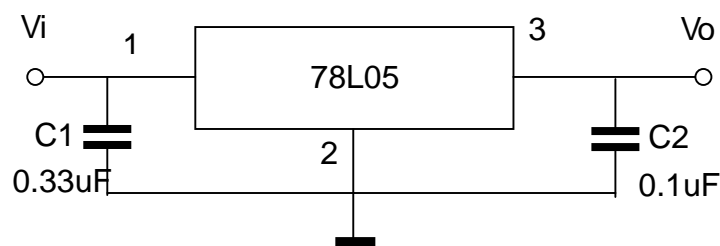
Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

	Symbol	Rating	Unit
Input Voltage	$V_I$	30	V
Operating Temperature	$T_{opr}$	-20~120	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55~150	$^\circ\text{C}$

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

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

	Symbol	Test Condition	Min	Typ	Max	Unit
Output Voltage	$V_O$	$T_j = 25^\circ\text{C}$	4.8	5.0	5.2	V
		$7\text{V} \leq V_I \leq 20\text{V}$ , $I_O = 1\text{mA} - 40\text{mA}$	4.75	-	5.25	V
		$7\text{V} \leq V_I \leq V_{MAX.}$ , $I_O = 1\text{mA} - 70\text{mA}$	4.75	-	5.25	V
Load Regulation	$\Delta V_O$	$I_O = 1\text{mA} - 100\text{mA}$ , $T_j = 25^\circ\text{C}$	-	11	60	mV
		$I_O = 1\text{mA} - 40\text{mA}$ , $T_j = 25^\circ\text{C}$	-	5.0	30	
Line Regulation	$\Delta V_O$	$7.0\text{V} \leq V_I \leq 20\text{V}$ , $T_j = 25^\circ\text{C}$	-	8	150	mV
		$8.0\text{V} \leq V_I \leq 20\text{V}$ , $T_j = 25^\circ\text{C}$	-	1.6	50	
Quiescent Current	$I_Q$		-	2.0	5.5	mA
Quiescent Current Change	$\Delta I_Q$	$8.0\text{V} \leq V_I \leq 20\text{V}$	-	-	1.5	mA
		$1.0\text{mA} \leq I_O \leq 40\text{mA}$	-	-	0.1	
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$	-	40	-	$\mu\text{V}$
Ripple Rejection	RR	$f = 120\text{Hz}$ , $8.0\text{V} \leq V_I \leq 20\text{V}$ , $T_j = 25^\circ\text{C}$	-	80	-	dB
Dropout Voltage	VD	$T_j = 25^\circ\text{C}$	41	1.7	-	V



®

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