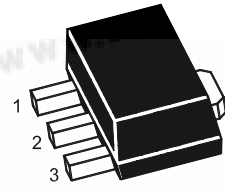


ST 78L05U

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3-Terminal Positive Voltage Regulator



1.OUT 2.GND 3.IN
SOT-89 Plastic Package

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

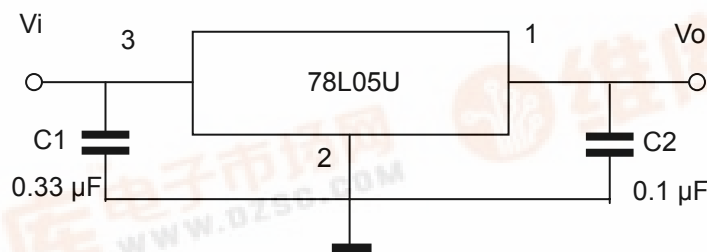
Parameter	Symbol	Rating	Unit
Input Voltage	V_i	30	V
Power Dissipation	P_{tot}	800 ¹⁾	mW
Operating Temperature	T_{opr}	- 20 to + 120	$^\circ\text{C}$
Storage Temperature Range	T_s	- 55 to +150	$^\circ\text{C}$

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

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

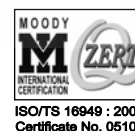
(Unless otherwise specified, $0\text{ }^\circ\text{C} \leq T_j \leq 125\text{ }^\circ\text{C}$, $V_i = 10\text{ V}$, $I_o = 40\text{ mA}$, $C_i = 0.33\text{ }\mu\text{F}$, $C_o = 0.1\text{ }\mu\text{F}$)

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

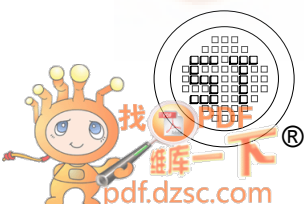


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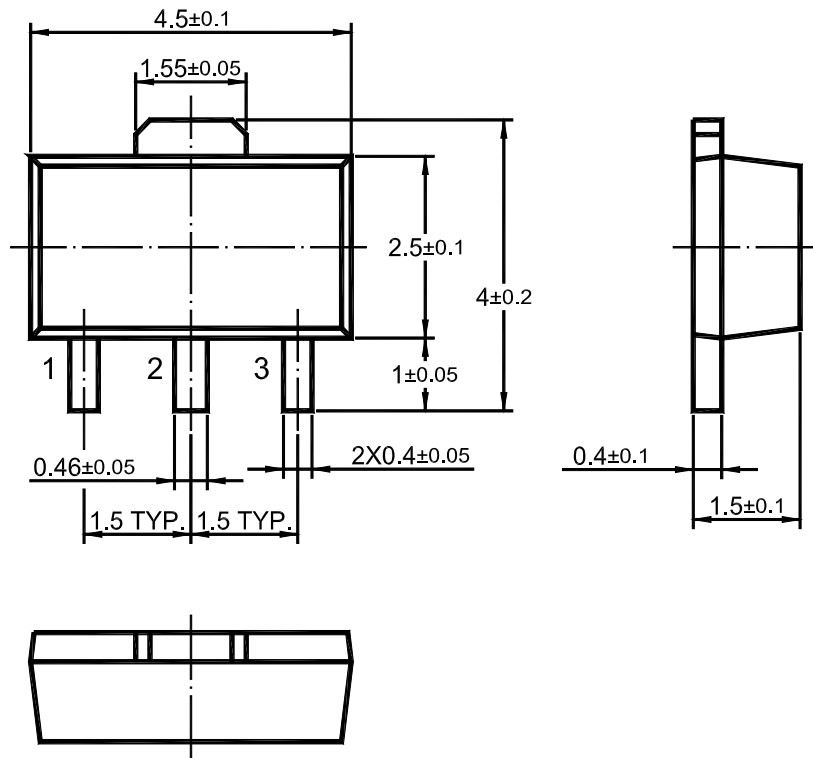
Dated : 21/06/2006



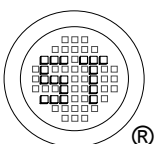
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SOT-89 PACKAGE OUTLINE



Dimensions in mm



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Dated : 21/06/2006