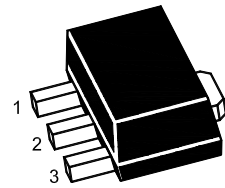


78L09U

3-Terminal Positive Voltage Regulator



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

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

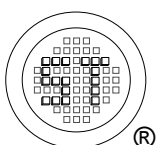
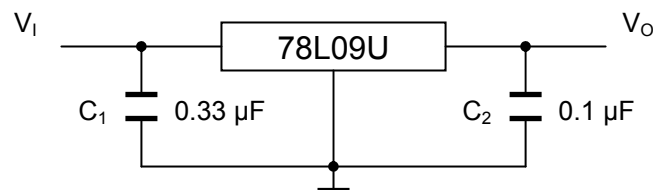
Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V
Power Dissipation	P_{tot}	800 ¹⁾	mW
Operating Temperature	T_{opr}	- 20 to + 120	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

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

(Unless otherwise specified, $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$, $V_I = 15\text{ V}$, $I_o = 40\text{ mA}$, $C_1 = 0.33\ \mu\text{F}$, $C_2 = 0.1\ \mu\text{F}$)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_O	$T_j = 25^\circ\text{C}$	8.64	9	9.36	V
		$11.4\text{ V} \leq V_I \leq 24\text{ V}$, $1\text{ mA} \leq I_o \leq 40\text{ mA}$	8.55	-	9.45	V
		$V_I = 15\text{ V}$, $1\text{ mA} \leq I_o \leq 70\text{ mA}$	8.55	-	9.45	V
Line Regulation	Regline	$11.4\text{ V} \leq V_I \leq 24\text{ V}$, $T_j = 25^\circ\text{C}$	-	-	200	mV
		$12\text{ V} \leq V_I \leq 24\text{ V}$, $T_j = 25^\circ\text{C}$	-	-	160	
Load Regulation	Regload	$1\text{ mA} \leq I_o \leq 100\text{ mA}$, $T_j = 25^\circ\text{C}$	-	-	90	mV
		$1\text{ mA} \leq I_o \leq 40\text{ mA}$, $T_j = 25^\circ\text{C}$	-	-	45	
Quiescent Current	I_Q	$T_j = 25^\circ\text{C}$	-	-	6	mA
Quiescent Current Change	ΔI_Q	$12\text{ V} \leq V_I \leq 24\text{ V}$, $I_o = 40\text{ mA}$	-	-	1.5	mA
		$V_I = 15\text{ V}$, $1\text{ mA} \leq I_o \leq 40\text{ mA}$	-	-	0.1	
Output Noise Voltage	V_N	$10\text{ Hz} \leq f \leq 100\text{ KHz}$, $T_j = 25^\circ\text{C}$	-	70	-	μV
Ripple Rejection	RR	$f = 120\text{ Hz}$, $12\text{ V} \leq V_I \leq 24\text{ V}$, $T_j = 25^\circ\text{C}$	38	-	-	dB
Dropout Voltage	V_{Drop}	$T_j = 25^\circ\text{C}$	-	1.7	-	V



SEMTECH ELECTRONICS LTD.



ISO 14001:2004
Certificate No. 180713000

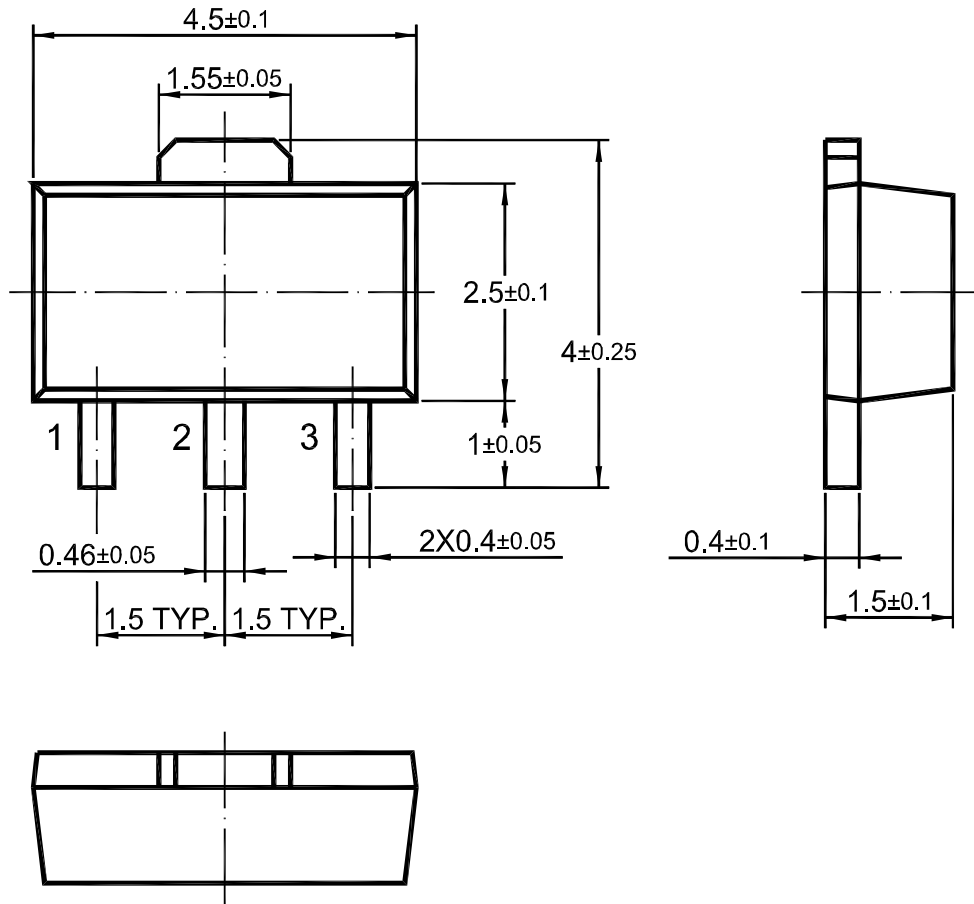
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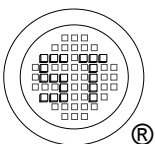
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Certificate No. PRC-18P4-148-1

SGS

SOT-89 PACKAGE OUTLINE



Dimensions in mm



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