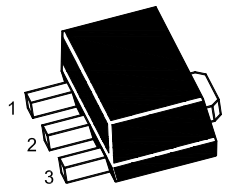
78L09U

3-Terminal Positive Voltage Regulator



1.OUT 2.GND 3.IN

SOT-89 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

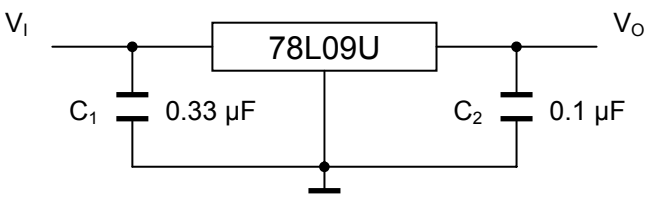
Parameter	Symbol	Value	Unit
Input Voltage	V_I	35	V
Power Dissipation	P_{tot}	800 [1)]	mW
Operating Temperature	T_{opr}	- 20 to + 120	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

[1)] 15 mm X 25 mm X 0.7 mm alumina ceramic board, $T_a \leq 25$ °C

Electrical Characteristics (T_a = 25 °C)

(Unless otherwise specified, 0 °C ≤ T_J ≤ 125 °C, V_I = 15 V, I_O = 40 mA, C_I = 0.33 µF, C_O = 0.1 µF)

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



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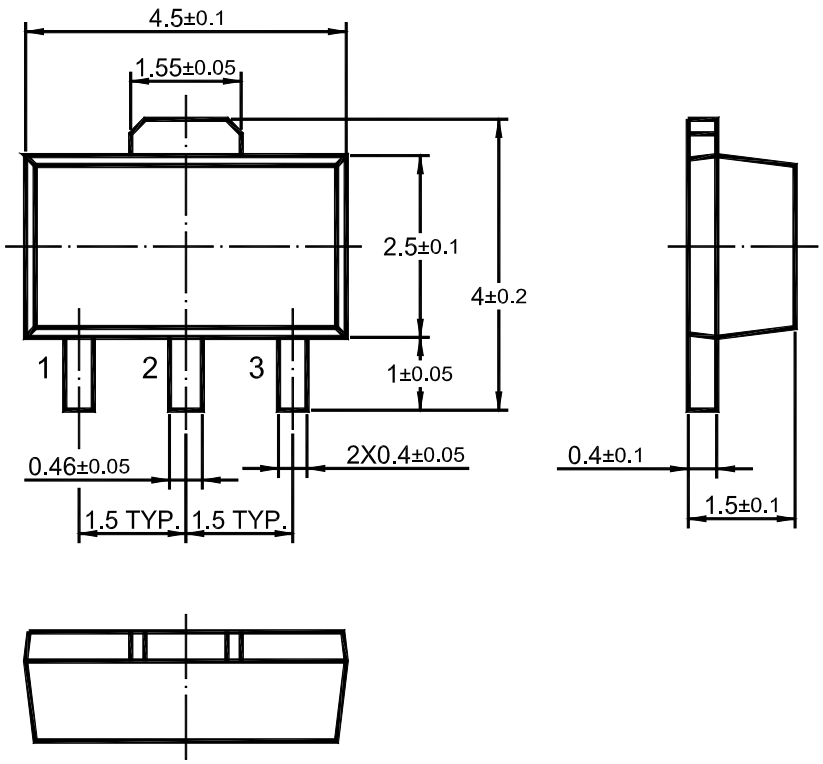
SOT-89 PACKAGE OUTLINE



Dimensions in mm