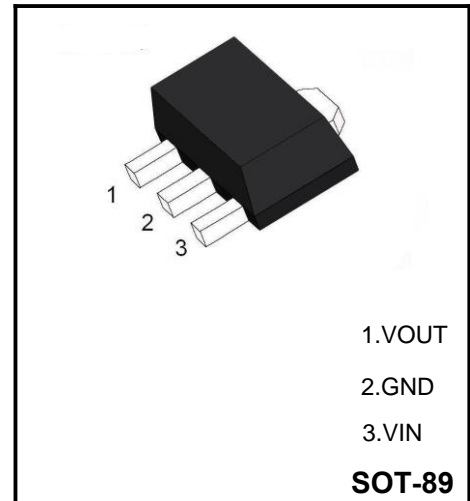


Three-Terminal Positive Voltage Regulator

Features

- Maximum Output current I_o : 0.1A
- Output Voltage V_o : 9V
- Continuous Total Dissipation P_d : 0.5W ($T_a = 25^\circ\text{C}$)

Marking Code	
78L09	YFW 78L09



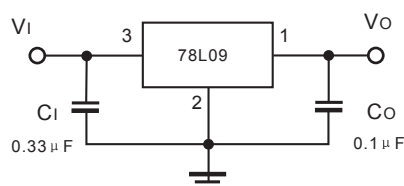
Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input Voltage	V_i	30	V
Operating Junction Temperature Range	T_{OPR}	-55 ~ +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics ($T_a=25^\circ\text{C}$, unless otherwise specified)

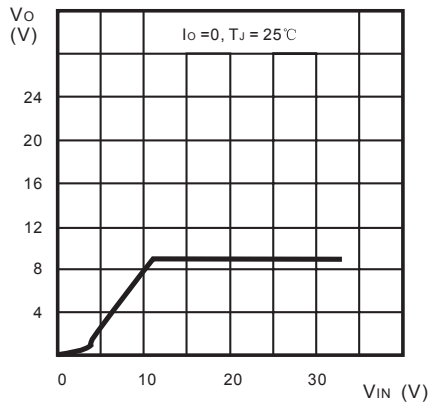
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	8.64	9.0	9.36	V
		$T_J = 0 \sim 125^\circ\text{C}, 12\text{V} \leq V_i \leq 24\text{V}, I_o = 1\text{mA} \sim 40\text{mA}$	8.55	9.0	9.45	V
		$T_J = 0 \sim 125^\circ\text{C}, I_o = 1\text{mA} \sim 70\text{mA}$	8.55	9.0	9.45	V
Load Regulation	ΔV_o	$T_J = 25^\circ\text{C}, I_o = 1\text{mA} \sim 100\text{mA}$		19	90	mV
		$T_J = 25^\circ\text{C}, I_o = 1\text{mA} \sim 40\text{mA}$		11	40	mV
Line Regulation	ΔV_o	$T_J = 25^\circ\text{C}, 12\text{V} \leq V_i \leq 24\text{V}$		45	175	mV
		$T_J = 25^\circ\text{C}, 13\text{V} \leq V_i \leq 24\text{V}$		40	125	mV
Quiescent Current	I_q	$T_J = 25^\circ\text{C}$		4.1	6.0	mA
Quiescent current Change	ΔI_q	$T_J = 0 \sim 125^\circ\text{C}, 13\text{V} \leq V_i \leq 24\text{V}$			1.5	mA
		$T_J = 0 \sim 125^\circ\text{C}, 1\text{mA} \leq I_o \leq 40\text{mA}$			0.1	
Output Noise Voltage	V_N	$T_J = 25^\circ\text{C}, 10\text{Hz} \leq f \leq 100\text{KHz}$		58		μV
Ripple Rejection	RR	$T_J = 0 \sim 125^\circ\text{C}, 15\text{V} \leq V_i \leq 25\text{V}, f = 120\text{Hz}$		45		dB
Dropout Voltage	V_D	$T_J = 25^\circ\text{C}$		1.7		V

Typical applications

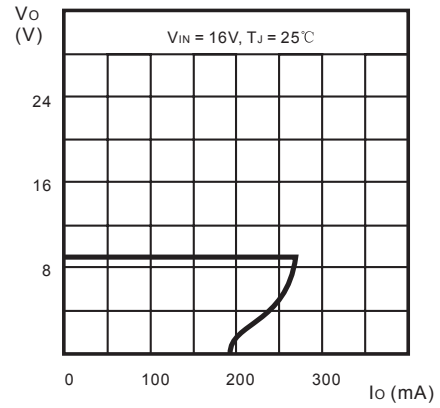


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

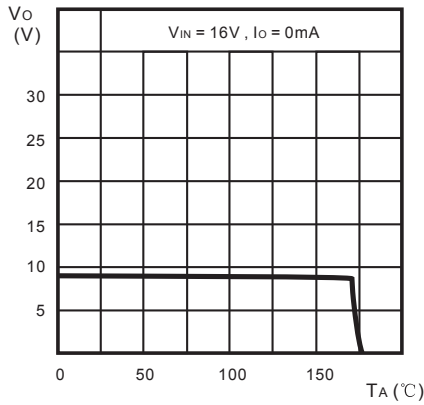
Typical Characteristics



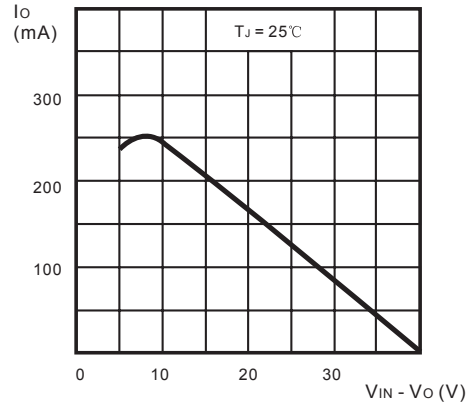
Output Characteristics



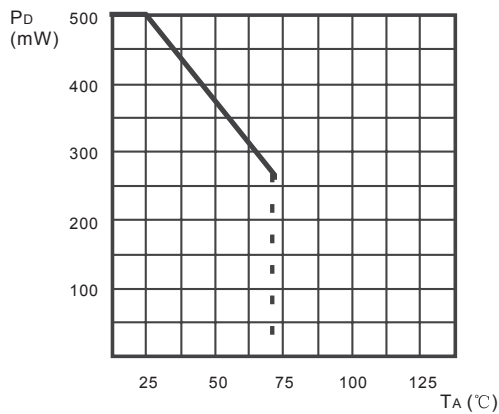
Load Characteristics



Thermal Shutdown



Short Circuit Output Current



Power Dissipation vs. Ambient Temperature

Ordering information

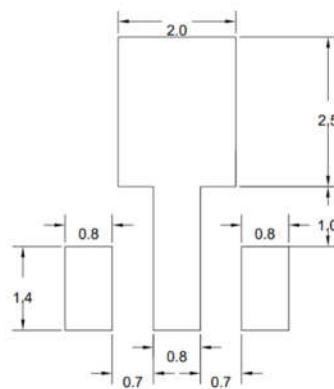
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

Disclaimer

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