



3-Terminal 1A Negative Voltage Regulator

LM7909J

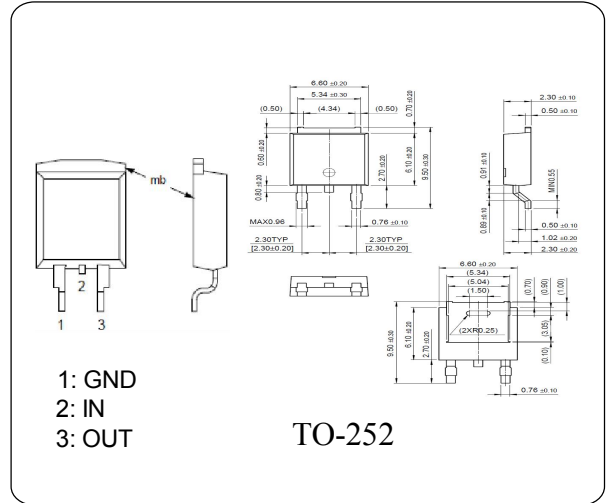


GENERAL DESCRIPTION

The LM7909J series of three-terminal negative regulators are available in TO-252 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shutdown and safe operating area protection, making it essentially indestructible.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Typ	Unit
Input Voltage	V_I	-5	V
Output Voltage	V_O	-9.0	V
Peak Current	I_{PK}	-2.2	A
Operating Temperature Range	T_{OPR}	0~125	°C
Storage Temperature Rang	T_{STG}	-65~150	°C



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

(Refer to test circuit, $I_o = 500mA$, $V_i = -15V$, $C_i = 2.2\mu F$, $C_o = 1.0\mu F$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j = 25^\circ C$ $V_i = -12V \sim -25V$ $I_o = 5.0mA \sim 1.0A$	-8.73	-9.0	-9.27	V
Line Regulation	ΔV_o	$T_j = 25^\circ C$, $V_i = -12V \sim -25V$	—	—	-180	mV
		$T_j = 25^\circ C$, $V_i = -12V \sim -17V$	—	—	-90	
Load Regulation	ΔV_o	$T_j = 25^\circ C$, $I_o = 5.0mA \sim 1.0A$	—	—	-180	mV
		$T_j = 25^\circ C$ $I_o = 250mA \sim 750mA$	—	—	-90	
Quiescent Current	I_q	$T_j = +25^\circ C$	—	—	-8.0	mA
Quiescent Current Change	ΔI_Q	$I_o = 5.0mA \sim 1.0A$	—	—	-0.5	mA
		$T_j = 25^\circ C$, $V_i = -12V \sim -25V$	—	—	-0.8	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5.0mA$	—	-0.5	—	mV/°C
Ripple Rejection	RR	$f = 120Hz$, $V_o = -13V$ to $-23V$	56	80	—	dB
Dropout Voltage	V_{Drop}	$I_o = 1.0A$, $T_j = +25^\circ C$	—	-2	—	V
Output Resistance	R_o	$f = 1KHz$	—	0.017	—	Ω
Short Circuit Current	I_{SC}	$V_i = -35V$, $T_A = +25^\circ C$	—	-300	—	mA
Peak Current	I_{PK}	$T_j = +25^\circ C$	—	—	-2.2	A