

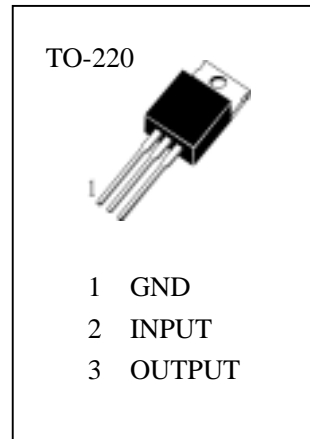


3-TERMINAL 1A NEGATIVE VOLTAGE REGULATORS

The H7909 series of three terminal negative regulators are available in the TO-220 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, Thermal shut down and safe area protection, making it essentially indestructible.

Features

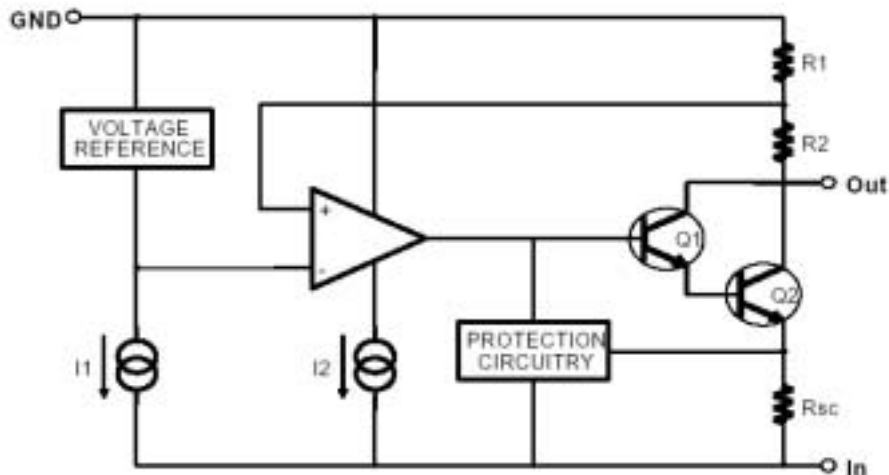
- Output current in Excess of 1A
- Output Voltages of -9V
- Internal Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe-Area Compensation



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

- V_I —Input Voltage..... -35V
- R_{JC} —Thermal Resistance Junction-Cases..... 5 /W
- R_{JA} —Thermal Resistance Junction-Air..... 65 /W
- T_{OPR} —Operating Temperature Range..... 0~125
- T_{STG} —Storage Temperature Range..... -65~150

BLOCK DIAGRAM





(unless otherwise specified , 0 T_J 125 , $I_o=500mA$, $V_i=14V$, $C_i=2.2 \mu F$, $C_o=1 \mu F$)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
V_o	Output Voltage	-8.7	-9.0	-9.3	V	$T_J=25$
		-8.6	-9.0	-9.4		$I_o=5.0mA$ to $1.0A$, $P_o \leq 15W$, $V_i=-11.5V$ to $-23V$
V_o	Line Regulation (Note1)		10	180	mV	$T_J=25$, $V_i=-10.5V$ to $-25V$
			5	90		$T_J=25$, $V_i=-11V$ to $-17V$
V_o	Load Regulation (Note1)		12	180	mV	$T_J=25$, $I_o=1.5A$ to $5.0mA$
			4	90		$T_J=25$, $I_o=250mA$ to $750mA$
I_o	Quiescent Current		3	6	mA	$T_J=25$
I_o	Quiescent Current Change		0.05	0.5	mA	$I_o=5mA$ to $1.0A$
			0.1	1		$V_i=-11.5V$ to $-25V$
V_o/ T	Output Voltage Drift		-0.6		mV/	$I_o=5mA$
V_N	Output Noise Voltage		175		μV	$T_A=25$, $f=10Hz$ to $100kHz$
RR	Ripple Rejection	54	60		dB	$f=120Hz$, $V_i=10V$
V_D	Dropout Voltage		2		V	$T_J=25$, $I_o=1A$,
I_{SC}	Short Circuit Current		300		mA	$T_J=25$, $V_i=-35V$
I_{PK}	Peak Current		2.2		A	$T_J=25$



Fig.1 Output Voltage

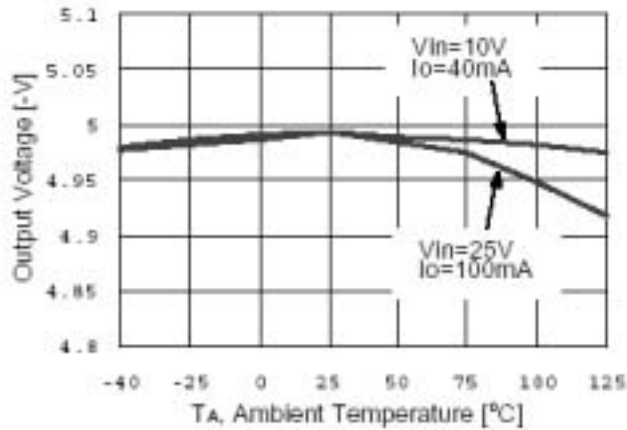


Fig. 2 Load Regulation

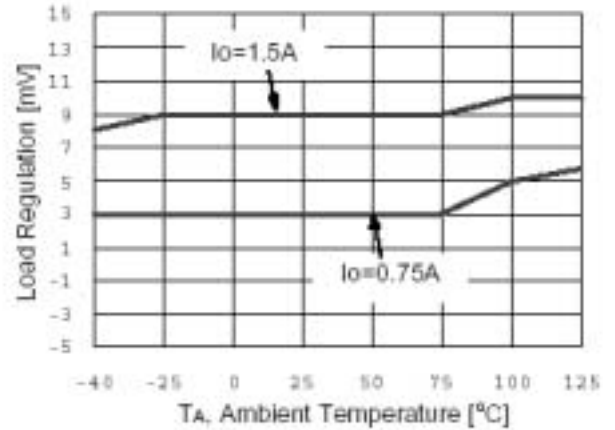


Fig.3 Quiescent Current

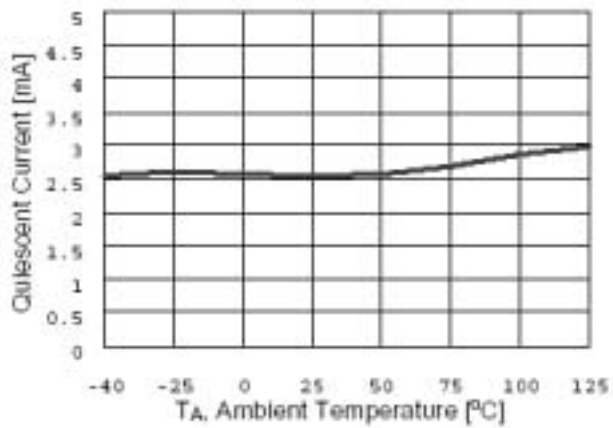


Fig. 4 Dropout Voltage

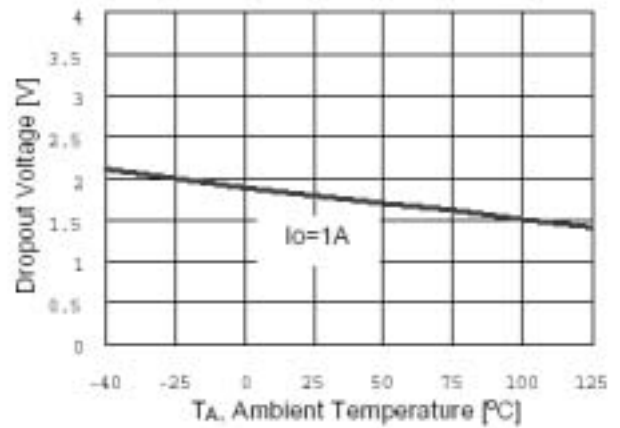


Fig.5 Short Circuit Current

