

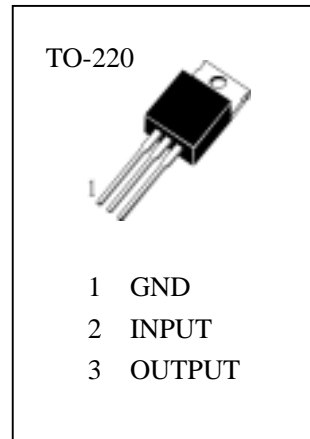


3-TERMINAL 1A NEGATIVE VOLTAGE REGULATORS

The H7905 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

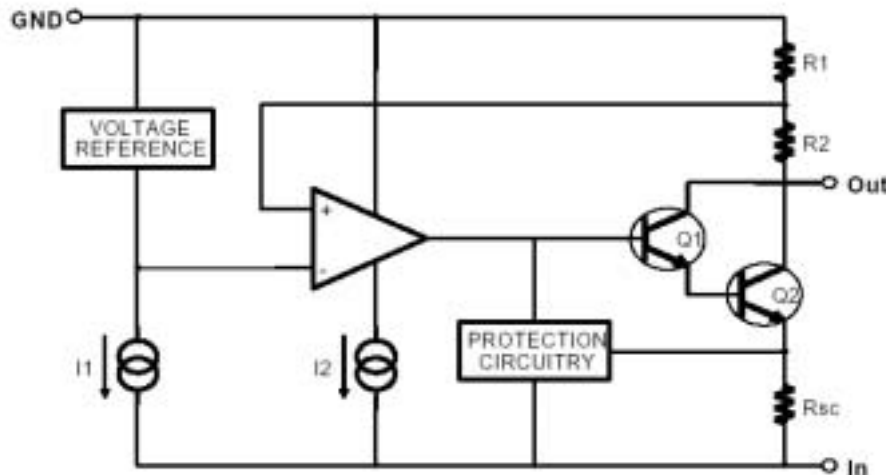
- Output current in Excess of 1A
- Output Voltages of -5V
- Internal Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe-Area Compensation



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

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

BLOCK DIAGRAM





(unless otherwise specified, $T_J = 25^\circ\text{C}$, $I_0 = 500\text{mA}$, $V_I = 10\text{V}$, $C_I = 2.2\ \mu\text{F}$, $C_O = 1\ \mu\text{F}$)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
V_O	Output Voltage	-4.8	-5.0	-5.2	V	$T_J = 25$ $I_0 = 5.0\text{mA}$ to 1.0A , $P_O = 15\text{W}$, $V_I = -7\text{V}$ to -20V
		-4.75	-5.0	-5.25		
V_O	Line Regulation (Note1)		5	50	mV	$T_J = 25$, $V_I = -7\text{V}$ to -20V , $I_0 = 1\text{A}$
			2	25		$T_J = 25$, $V_I = -8\text{V}$ to -12V , $I_0 = 1\text{A}$
V_O	Load Regulation (Note1)		7	50	mV	$V_{IN} = -7.5\text{V}$ to -25V ,
			7	50		$V_{IN} = -8\text{V}$ to -12V , $I_0 = 1\text{A}$
I_Q	Quiescent Current		3	6	mA	$T_J = 25$
I_Q	Quiescent Current Change			0.5	mA	$I_0 = 5\text{mA}$ to 1.0A
				1.3		$V_I = -9\text{V}$ to -25V
V_O / T	Output Voltage Drift		-0.5		mV/	$I_0 = 5\text{mA}$
V_N	Output Noise Voltage		130		μV	$T_A = 25$, $f = 10\text{Hz}$ to 100kHz
RR	Ripple Rejection	54	60		dB	$f = 120\text{Hz}$, $V_I = 10\text{V}$
V_D	Dropout Voltage		2		V	$T_J = 25$, $I_0 = 1\text{A}$
I_{SC}	Short Circuit Current		300		mA	$T_J = 25$, $V_I = -35\text{V}$,
I_{PK}	Peak Current		2.2		A	$T_J = 25$



Fig.1 Output Voltage

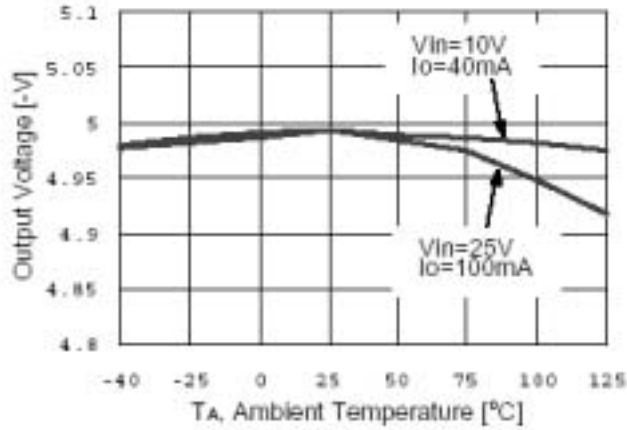


Fig. 2 Load Regulation

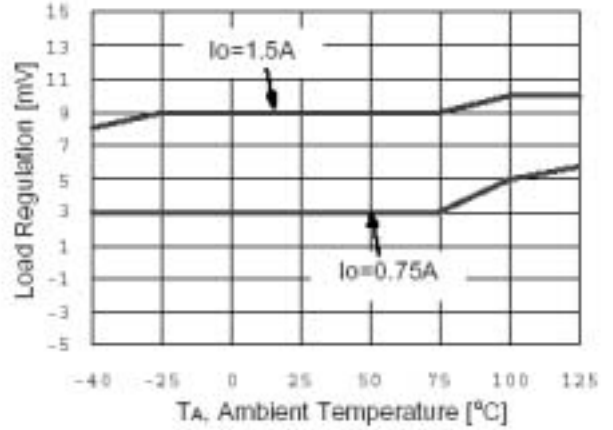


Fig.3 Quiescent Current

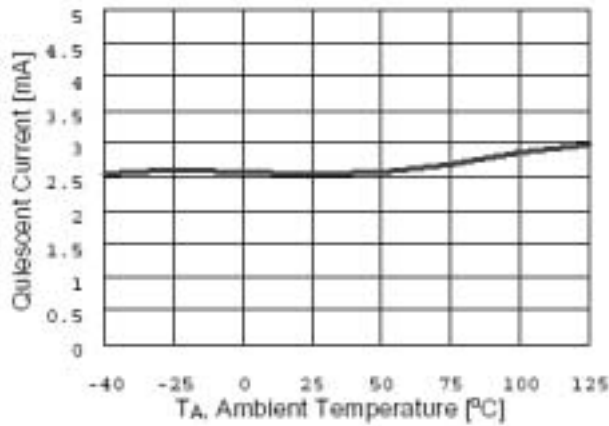


Fig. 4 Dropout Voltage

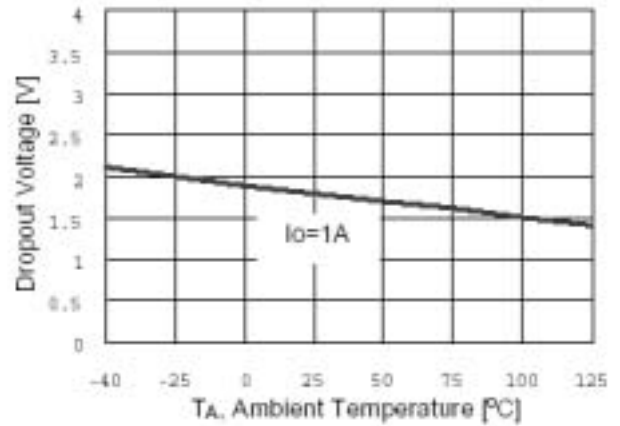


Fig.5 Short Circuit Current

