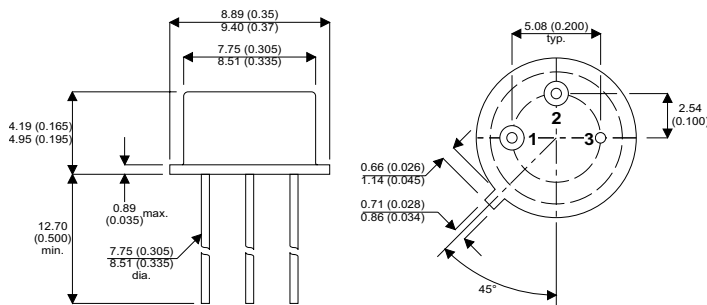


MECHANICAL DATA

Dimensions in mm (inches)



H Package - TO-39 Metal

Pin 1 = Ground Pin 2 = Vout Pin 3 = Vin

**5 VOLT NEGATIVE
VOLTAGE REGULATOR**

FEATURES

- 0.01%/V LINE REGULATION
- 0.3%/A LOAD REGULATION
- THERMAL OVERLOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- SAFE OPERATING AREA PROTECTION
- 1% OUTPUT VOLTAGE TOLERANCE

DESCRIPTION

These parts are 5V negative 1.5A Voltage Regulators providing 0.01% per Volt Line Regulator and 0.3% per amp load regulation.

Projection includes safe operating Area current limiting and thermal.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_I	DC Input Voltage	$V_O = -5V$	35V
P_D	Power Dissipation		Internally limited
T_j	Operating Junction Temperature Range		-55°C to +150°C
	Maximum Junction Temperature		150°C
T_{stg}	Storage Temperature Range		-65°C to +150°C
T_L	Lead Temperature (Soldering, 10 sec)		300°C

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless stated)

Parameter	Test Conditions	IP7905AH IP120AH-05			IP7905H IP120H-05			Units
		Min.	Typ.	Max.	Min.	Typ.	Max.	
V_O Output Voltage*	$I_O = 100\text{mA}$ $V_{IN} = 10\text{V}$	- 4.95	- 5	- 5.05	4.80	5	5.20	V
	$I_O = 5\text{mA to } 350\text{mA}$ $P_D \leq P_{MAX}$ $T_j = -55 \text{ to } +150^\circ\text{C}$	- 4.85		- 5.15	4.75		5.25	
ΔV_O Line Regulation*	$I_O = 200\text{mA}$ $(V_{IN} = - 7 \text{ to } - 25\text{V})$		3	10			50	mV
	$I_O = 200\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$ $(V_{IN} = - 8 \text{ to } - 25\text{V})$		3	10			30	
	$I_O = 500\text{mA}$ $(V_{IN} = 8 \text{ to } 12\text{V})$		3	10			30	
ΔV_O Load Regulation*	$I_O = 5\text{mA to } 500\text{mA}$ $V_{IN} = 10\text{V}$ $T_j = -55 \text{ to } +150^\circ\text{C}$		5	50			100	mV
I_d Quiescent Current*	$I_O = 350\text{mA}$ $V_{IN} = 10\text{V}$ $T_j = -55 \text{ to } +150^\circ\text{C}$		4	6				mA
ΔI_Q Quiescent Current Change*	$I_O = 5 \text{ to } 500 \text{ mA}$ $V_{IN} = 10\text{V}$ $T_j = -55 \text{ to } +150^\circ\text{C}$		0.1	0.5			0.5	mA
	$I_O = 200\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$ $(V_{IN} = - 8 \text{ to } - 25\text{V})$		0.2	0.8			0.8	
V_N Output Noise Voltage	$f = 10\text{Hz to } 100\text{kHz}$		40	200			400	μV
$\frac{\Delta V_{IN}}{\Delta V_O}$ Ripple Rejection	$f = 120\text{Hz}$ $I_O = 300\text{mA}$ $(V_{IN} = - 8 \text{ to } - 18\text{V})$	65	80		54			dB
	$f = 120\text{Hz}$ $I_O = 100\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$ $(V_{IN} = - 8 \text{ to } - 8\text{V})$	65	80		54			
I_{SC} Dropout Voltage*	$I_O = 350\text{mA}$		2	2.5			2.5	V
I_{PK} Short Circuit Current*	$V_{IN} = 35\text{V}$		600	1200.		600	1200	mA
Peak Output Current*	$V_{IN} = 10\text{V}$	0.7	2.4	3.3	0.7	2.4	3.3	A
Average Temperature Coefficient of Output Voltage*	$I_O = 5\text{mA}$		0.5	2.0		0.5		$\text{mV}/^\circ\text{C}$

* Pulse Test: $t_p \leq 10\text{ms}$, $\delta \leq 5\%$.

All characteristics are measured with a capacitor across the input of $0.22\mu\text{F}$ and a capacitor across the output of $0.1\mu\text{F}$. Output Voltage changes due to changes in internal temperature must be taken into account separately. Although power dissipation is internally limited, these specifications apply for up to 2W for the TO-39 package.

THERMAL DATA

$R_{THj\text{-case}}$	Thermal Resistance Junction – Case	TO-39 (H Package)	$20^\circ\text{C} / \text{W}$ Typ.
$R_{THj\text{-amb}}$	Thermal Resistance Junction – Ambient	TO-39 (H Package)	$140^\circ\text{C} / \text{W}$ Typ.