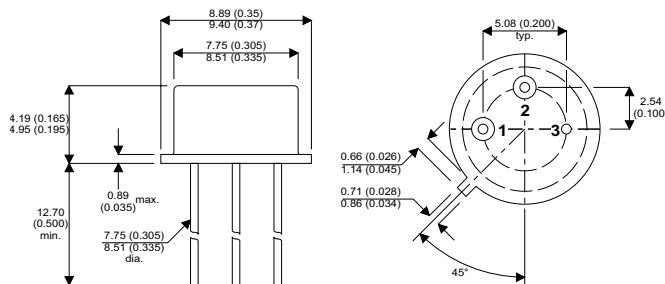


**MECHANICAL DATA**

Dimensions in mm (inches)

**5 VOLT NEGATIVE  
VOLTAGE REGULATOR**



**H Package - TO-39 Metal**

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

**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	$-55^{\circ}C$ to $+150^{\circ}C$
	Maximum Junction Temperature	150°C
$T_{stg}$	Storage Temperature Range	$-65^{\circ}C$ to $+150^{\circ}C$
$T_L$	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	
$\Delta V_O$ Line Regulation*	$I_O = 200\text{mA}$		3	10			50	mV
	$I_O = 200\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$		3	10			30	
	$I_O = 500\text{mA}$		3	10			30	
$\Delta V_O$ 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
$\Delta I_Q$ 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
	$I_O = 200\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$		0.2	0.8			0.8	
$V_N$ Output Noise Voltage	$f = 10\text{Hz to } 100\text{kHz}$		40	200			400	$\mu\text{V}$
$\frac{\Delta V_{IN}}{\Delta V_O}$ Ripple Rejection	$f = 120\text{Hz}$ $I_O = 300\text{mA}$	65	80		54			dB
	$f = 120\text{Hz}$ $I_O = 100\text{mA}$ $T_j = -55 \text{ to } +150^\circ\text{C}$	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)	$140^\circ\text{C} / \text{W Typ.}$