



PRELIMINARY

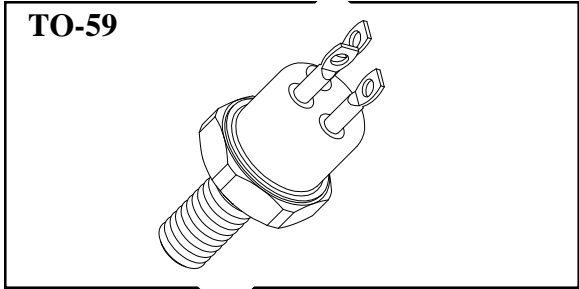
# SOLID STATE DEVICES, INC.

14005 Stage Road \* Santa Fe Springs, Ca 90670  
Phone: (562) 404-4474 \* Fax: (562) 404-1773

## DESIGNER'S DATA SHEET

# STX7905

### 1 AMP 600 VOLTS NPN TRANSISTOR



www.datasheet4u.com

### FEATURES:

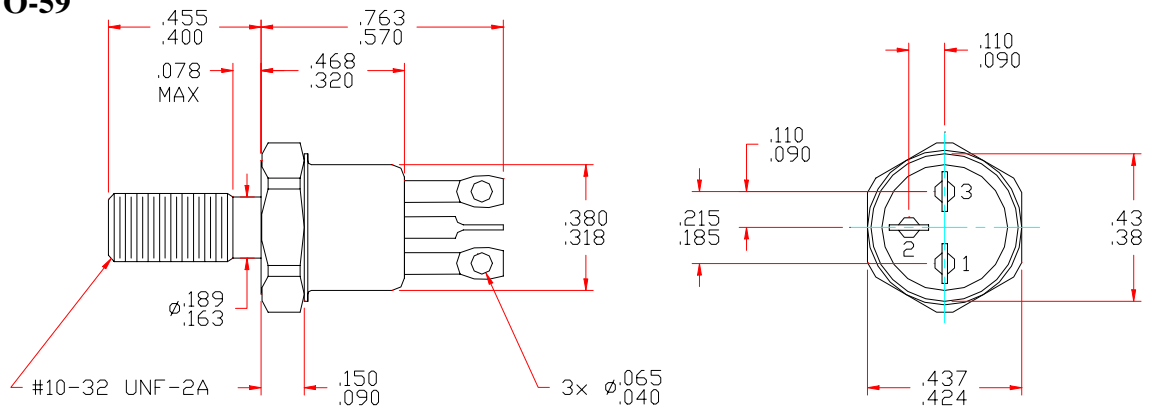
- **BV<sub>CBO</sub> 600V.**
- **Fast Switching.**
- **Low Leakage.**
- **Low Saturation Voltage.**
- **200°C Operating, Gold Eutectic Die Attach.**
- **Designed for Complementary Use with STX6905.**

MAXIMUM RATINGS	SYMBOL	VALUE	UNITS
Collector-Emitter Voltage $R_{BE} = 1 \text{ k}\Omega$	$V_{CEO}$ $V_{CER}$	450 600	Volts
Collector-Base Voltage	$V_{CBO}$	600	Volts
Emitter-Base Voltage	$V_{EBO}$	6	Volts
Collector Current	$I_C$	1	Amps
Base Current	$I_B$	0.5	Amps
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	20 133	Watts mW/ $^\circ\text{C}$
Operating and Storage Temperature	$T_J, T_{STG}$	-65 to +200	$^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	7.5	$^\circ\text{C}/\text{W}$

### CASE OUTLINE: TO-59

#### Pin Out:

- 1 - Collector
- 2 - Base
- 3 - Emmitter



NOTE: All specifications are subject to change without notification.  
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TR0006A [www.DataSheet4U.com](http://www.DataSheet4U.com)

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ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
<b>Collector-Emitter Breakdown Voltage*</b> (I <sub>C</sub> = 1 mA <sub>DC</sub> ) <small>www.datasheet4u.com</small> (I <sub>C</sub> = 100μA <sub>DC</sub> ; R <sub>BE</sub> = 1kΩ)	<b>BV<sub>CEO</sub></b> <b>BV<sub>CER</sub></b>	<b>450</b> <b>600</b>	-	<b>V<sub>DC</sub></b>
<b>Collector-Base Breakdown Voltage</b> (I <sub>C</sub> = 100μA <sub>DC</sub> )	<b>BV<sub>CBO</sub></b>	<b>600</b>	-	<b>V</b>
<b>Emitter-Base Breakdown Voltage</b> (I <sub>E</sub> = 20μA <sub>DC</sub> )	<b>BV<sub>EBO</sub></b>	<b>6</b>	-	<b>V</b>
<b>Collector Cutoff Current</b> (V <sub>CB</sub> = 600V <sub>DC</sub> )	<b>I<sub>CBO</sub></b>	-	<b>1</b>	<b>μA</b>
<b>Emmitter Cutoff Current</b> (V <sub>EB</sub> = 6V <sub>DC</sub> )	<b>I<sub>EBO</sub></b>	-	<b>1</b>	<b>μA</b>
<b>DC Current Gain*</b> (I <sub>C</sub> = 1mA <sub>DC</sub> ; V <sub>CE</sub> = 10V <sub>DC</sub> ) (I <sub>C</sub> = 25mA <sub>DC</sub> ; V <sub>CE</sub> = 10V <sub>DC</sub> ) (I <sub>C</sub> = 100mA <sub>DC</sub> ; V <sub>CE</sub> = 15V <sub>DC</sub> )	<b>H<sub>FE</sub></b>	<b>40</b> <b>40</b> <b>30</b>	<b>200</b> <b>200</b> -	
<b>Collector-Emitter Saturation Voltage*</b> (I <sub>C</sub> = 25mA <sub>DC</sub> , I <sub>B</sub> = 2.5mA <sub>DC</sub> )	<b>V<sub>CE(SAT)</sub></b>	-	<b>0.5</b>	<b>V<sub>DC</sub></b>
<b>Base-Emitter Saturation Voltage*</b> (I <sub>C</sub> = 25mA <sub>DC</sub> , I <sub>B</sub> = 2.5mA <sub>DC</sub> )	<b>V<sub>BE(SAT)</sub></b>	-	<b>1.0</b>	<b>V<sub>DC</sub></b>
<b>Current Gain Bandwidth Product</b> (I <sub>C</sub> = 50mA <sub>DC</sub> , V <sub>CE</sub> = 10V <sub>DC</sub> , f = 1MHz)	<b>f<sub>T</sub></b>	<b>25</b>	-	<b>MHz</b>
<b>Output Capacitance</b> (V <sub>CB</sub> = 30V <sub>DC</sub> , I <sub>E</sub> = 0A <sub>DC</sub> , f = 1.0MHz)	<b>C<sub>ob</sub></b>	-	<b>15</b>	<b>pf</b>

\*Pulse Test: Pulse Width = 300us, Duty Cycle = 2%