



PRELIMINARY

SOLID STATE DEVICES, INC.

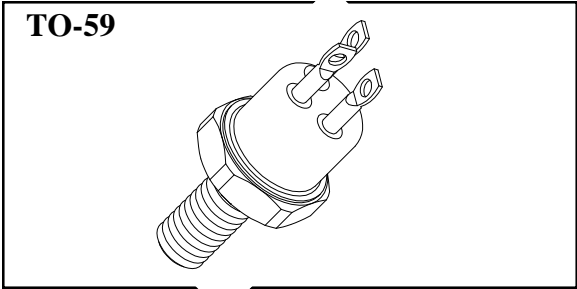
14005 Stage Road * Santa Fe Springs, Ca 90670
Phone: (562) 404-4474 * Fax: (562) 404-1773

DESIGNER'S DATA SHEET

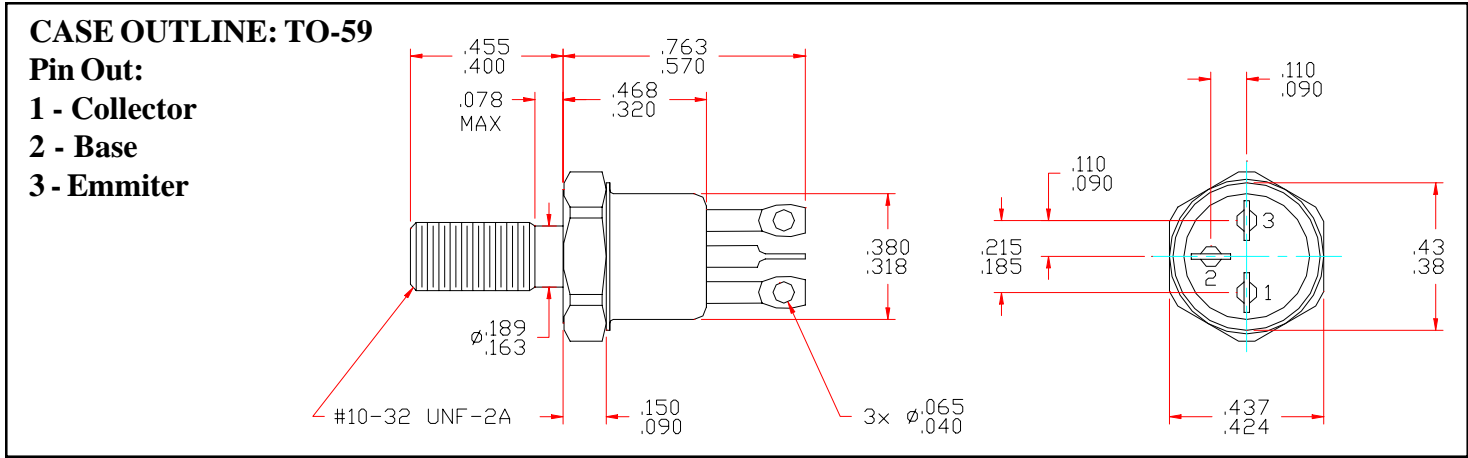
- FEATURES:**
- **BVCBO 600V.**
 - **Fast Switching.**
 - **Low Leakage.**
 - **Low Saturation Voltage.**
 - **200°C Operating, Gold Eutectic Die Attach.**
 - **Designed for Complementary Use with STX6905.**

STX7905

1 AMP
600 VOLTS
NPN TRANSISTOR



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°C	P_D	20 133	Watts mW/°C
Operating and Storage Temperature	T_J, T_{STG}	-65 to +200	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	7.5	°C/W



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

STX7905

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ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	MAX	UNITS
Collector-Emitter Breakdown Voltage* ($I_C = 1 \text{ mA}_{DC}$) ($I_C = 100 \mu\text{A}_{DC}$; $R_{BE} = 1 \text{ k}\Omega$)	BV_{CEO} BV_{CER}	450 600	-	V_{DC}
Collector-Base Breakdown Voltage ($I_C = 100 \mu\text{A}_{DC}$)	BV_{CBO}	600	-	V
Emitter-Base Breakdown Voltage ($I_E = 20 \mu\text{A}_{DC}$)	BV_{EBO}	6	-	V
Collector Cutoff Current ($V_{CB} = 600 V_{DC}$)	I_{CBO}	-	1	μA
Emmitter Cutoff Current ($V_{EB} = 6 V_{DC}$)	I_{EBO}	-	1	μA
DC Current Gain* ($I_C = 1 \text{ mA}_{DC}$; $V_{CE} = 10 V_{DC}$) ($I_C = 25 \text{ mA}_{DC}$; $V_{CE} = 10 V_{DC}$) ($I_C = 100 \text{ mA}_{DC}$; $V_{CE} = 15 V_{DC}$)	H_{FE}	40 40 30	200 200 -	
Collector-Emitter Saturation Voltage* ($I_C = 25 \text{ mA}_{DC}$, $I_B = 2.5 \text{ mA}_{DC}$)	$V_{CE(SAT)}$	-	0.5	V_{DC}
Base-Emitter Saturation Voltage* ($I_C = 25 \text{ mA}_{DC}$, $I_B = 2.5 \text{ mA}_{DC}$)	$V_{BE(SAT)}$	-	1.0	V_{DC}
Current Gain Bandwidth Product ($I_C = 50 \text{ mA}_{DC}$, $V_{CE} = 10 V_{DC}$, $f = 1 \text{ MHz}$)	fT	25	-	MHz
Output Capacitance ($V_{CB} = 30 V_{DC}$, $I_E = 0 \text{ A}_{DC}$, $f = 1.0 \text{ MHz}$)	C_{ob}	-	15	pf

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