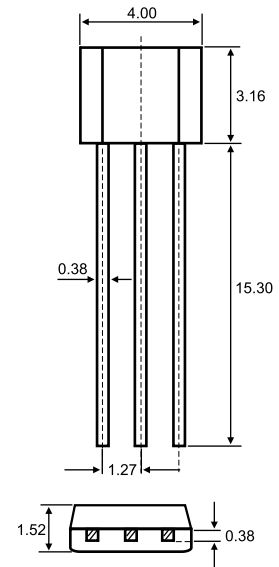


1. EMITTER
2. COLLECTOR
3. BASE

## TO-92S



Dimensions in inches and (millimeters)

## Features

- ✧ Low saturation voltage  $V_{CE(sat)}$ : 0.5V

### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Symbol    | Parameter                     | Value   | Units            |
|-----------|-------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage        | 15      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage     | 10      | V                |
| $V_{EBO}$ | Emitter-Base Voltage          | 8       | V                |
| $I_C$     | Collector Current –Continuous | 5       | A                |
| $P_C$     | Collector Power Dissipation   | 400     | mW               |
| $T_J$     | Junction Temperature          | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^\circ\text{C}$ |

### ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                            | MIN | TYP | MAX | UNIT          |
|--------------------------------------|---------------|------------------------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=50\mu\text{A}$ , $I_E=0$                              | 15  |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1\text{mA}$ , $I_B=0$                                 | 10  |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=50\mu\text{A}$ , $I_C=0$                              | 8   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=10\text{V}$ , $I_E=0$                              |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=8\text{V}$ , $I_C=0$                               |     |     | 0.5 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=2\text{V}$ , $I_C=2\text{A}$                       | 270 |     | 820 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=3\text{A}$ , $I_B=0.1\text{A}$                        |     |     | 0.5 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=6\text{V}$ , $I_C=50\text{mA}$ , $f=100\text{MHz}$ |     | 170 |     | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$            |     | 30  |     | pF            |

## Typical Characteristics

