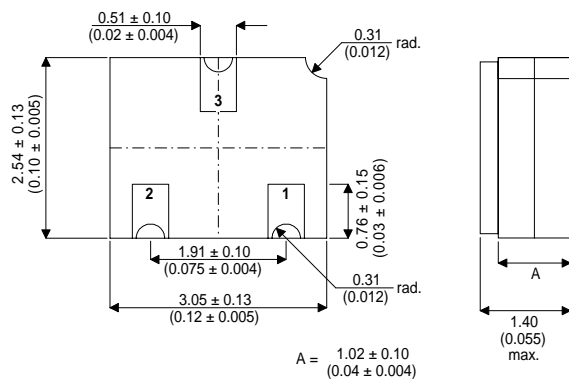


**HIGH SPEED, MEDIUM POWER, PNP
GENERAL PURPOSE TRANSISTOR IN A
HERMETICALLY SEALED
CERAMIC SURFACE MOUNT PACKAGE
FOR HIGH RELIABILITY APPLICATIONS**

MECHANICAL DATA

Dimensions in mm (inches)



**SOT23 CERAMIC
(LCC1 PACKAGE)**

Underside View

PAD 1 – Base PAD 2 – Emitter PAD 3 – Collector

FEATURES

- SILICON PLANAR EPITAXIAL PNP TRANSISTOR
- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
- SCREENING OPTIONS AVAILABLE
- HIGH SPEED, LOW SATURATION SWITCH

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N2894 for high reliability applications requiring small size and low weight devices.

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

| | | |
|----------------|---|---------------|
| V_{CBO} | Collector – Base Voltage | -12V |
| V_{CEO} | Collector – Emitter Voltage | -12V |
| V_{EBO} | Emitter – Base Voltage | -4V |
| I_C | Collector Current | 200mA |
| P_D | Total Device Dissipation @ $T_A = 25^\circ\text{C}$ | 360mW |
| | Derate above 25°C | 2.06mW / °C |
| P_D | Total Device Dissipation @ $T_C = 25^\circ\text{C}$ | 1.2W |
| | Derate above 25°C | 6.85mW / °C |
| T_{STG}, T_J | Operating and Storage Temperature Range | -65 to +200°C |

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

| Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|--|---|-------|------|-------|------|
| $V_{(BR)CBO}^*$ Collector – Base Breakdown Voltage | $I_C = 10\mu\text{A}$ $I_E = 0$ | -12 | | | V |
| $V_{(BR)CEO}$ Collector – Emitter Breakdown Voltage | $I_C = 10\text{mA}$ $I_B = 0$ | -12 | | | |
| $V_{(BR)EBO}$ Emitter – Base Breakdown Voltage | $I_E = 10\mu\text{A}$ $I_C = 0$ | -4 | | | |
| I_{CBO} Collector Cut-off Current | $V_{CB} = -6\text{V}$ $T_{amb} = 125^\circ\text{C}$ | | | -10 | nA |
| I_{CES} Collector Cut-off Current | $V_{BE} = 0$ $V_{CE} = -6\text{V}$ | | | -80 | |
| $V_{CE(sat)}$ Collector – Emitter Saturation Voltage | $I_C = -10\text{mA}$ $I_B = -1\text{mA}$ | | | -0.15 | V |
| | $I_C = -30\text{mA}$ $I_B = -3\text{mA}$ | | | -0.20 | |
| | $I_C = -100\text{mA}$ $I_B = -10\text{mA}$ | | | -0.50 | |
| $V_{BE(sat)}$ Base – Emitter On Voltage | $I_C = -10\text{mA}$ $I_B = -1\text{mA}$ | -0.78 | | -0.98 | V |
| | $I_C = -30\text{mA}$ $I_B = -3\text{mA}$ | -0.85 | | -1.2. | |
| | $I_C = -100\text{mA}$ $I_B = -10\text{mA}$ | | | -1.7 | |
| h_{FE} DC Current Gain | $I_C = -10\text{mA}$ $V_{CE} = -0.3\text{V}$ | 30 | | | — |
| | $I_C = -30\text{mA}$ $V_{CE} = -0.5\text{V}$ | 40 | | 150 | |
| | $I_C = -100\text{mA}$ $V_{CE} = -1\text{V}$ | 25 | | | |
| | $I_C = -30\text{mA}$ $V_{CE} = -0.5\text{V}$ $T_{amb} = 125^\circ\text{C}$ | 17 | | | |
| f_T Current Gain Bandwidth Product | $V_{CE} = -10\text{V}$ $f = 100\text{MHz}$ $I_C = -30\text{mA}$ | 400 | | | MHz |
| C_{ebo} Emitter – Base – Capacitance | $V_{EB} = -5\text{V}$ $I_C = 0$ $f = 1\text{MHz}$ | | | 6 | pF |
| C_{cbo} Collector – Base – Capacitance | $V_{CB} = -5\text{V}$ $I_C = 0$ $f = 1\text{MHz}$ | | | 6 | pF |
| t_{on} Turn on Time | $I_C = -30\text{mA}$ $V_{CE} = -2\text{V}$ $I_{B2} = -1.5\text{mA}$ | | | 60 | ns |
| t_{off} Turn off Time | $I_C = -30\text{mA}$ $V_{CE} = -2\text{V}$ $I_{B1} = I_{B2} = -1.5\text{mA}$ | | | 9 | ns |

* Pulse Test: $t_p \leq 300\mu\text{s}$, $\delta \leq 2\%$.