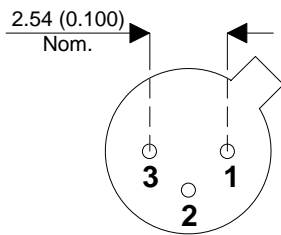
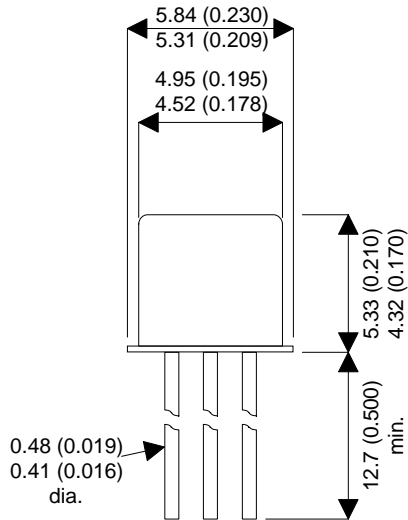




MECHANICAL DATA

Dimensions in mm (inches)



TO-18 (TO-206AA) PACKAGE

PIN 1 – Emitter PIN 2 – Base PIN 3 – Collector

HIGH VOLTAGE PNP SILICON TRANSISTOR

FEATURES

- Hermetic Metal Package
- Screening Options Available

APPLICATIONS:

All Semelab hermetically sealed products can be processed in accordance with the requirements of BS, CECC and JAN specifications

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

| | | | |
|-----------------|--|---------------------------------|----------------------------|
| V_{CBO} | Collector – Base Voltage | | -300V |
| V_{CEO} | Collector – Emitter Voltage | | -300V |
| V_{EBO} | Emitter – Base Voltage | | -5V |
| I_C | Continuous Collector Current | | -0.5A |
| P_D | Total Device Dissipation | $T_A = 25^\circ\text{C}$ | 0.5W |
| | | Derate above 25°C | 2.86mW/ $^\circ\text{C}$ |
| P_D | Total Device Dissipation | $T_C = 25^\circ\text{C}$ | 2.5W |
| | | Derate above 25°C | 14.3mW/ $^\circ\text{C}$ |
| T_J, T_{STG} | Operating Junction & Storage Temperature Range | | -65 to 200°C |
| $R_{\theta JC}$ | Thermal Resistance, Junction – Case | | 70°C/W |

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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

| Parameter | Test Conditions | Min. | Typ. | Max. | Unit | | |
|--------------------------------|--|-------------------------|-------------------------|------|-------|------|-----|
| OFF CHARACTERISTICS | | | | | | | |
| $V_{(BR)CEO}$ | Collector – Emitter Breakdown Voltage | $I_C = -10\text{mA}$ | $I_B = 0$ | -300 | V | | |
| $V_{(BR)CBO}$ | Collector – Base Breakdown Voltage | $I_C = -100\mu\text{A}$ | $I_E = 0$ | -300 | | | |
| $V_{(BR)EBO}$ | Emitter – Base Breakdown Voltage | $I_E = 100\mu\text{A}$ | $I_C = 0$ | -6 | | | |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = -250\text{V}$ | $I_E = 0$ | | -50 | nA | |
| I_{CEO} | Collector Cut-off Current | $V_{CE} = -300\text{V}$ | $I_B = 0$ | | -500 | | |
| I_{EBO} | Emitter Cut-off Current | $V_{BE} = -5\text{V}$ | $I_C = 0$ | | -50 | | |
| ON CHARACTERISTICS | | | | | | | |
| h_{FE} | DC Current Gain | $V_{CE} = -1\text{V}$ | $I_C = -1\text{mA}$ | 30 | 45 | — | |
| | | $V_{CE} = -10\text{V}$ | $I_C = -10\text{mA}$ | 35 | 50 | | |
| | | $V_{CE} = -10\text{V}$ | $I_C = -30\text{mA}$ | 35 | 55 | | 150 |
| | | $V_{CE} = -10\text{V}$ | $I_C = -100\text{mA}$ | | 40 | | |
| $V_{CE(sat)}$ | Collector – Emitter Saturation Voltage | $I_C = -10\text{mA}$ | $I_B = -1\text{mA}$ | | -0.15 | -0.3 | V |
| | | $I_C = -30\text{mA}$ | $I_B = -3\text{mA}$ | | -0.25 | -0.4 | |
| $V_{BE(sat)}$ | Base – Emitter Saturation Voltage | $I_C = -10\text{mA}$ | $I_B = -1\text{mA}$ | | | -0.8 | V |
| | | $I_C = -30\text{mA}$ | $I_B = -3\text{mA}$ | | | -0.9 | |
| DYNAMIC CHARACTERISTICS | | | | | | | |
| f_T | Current Gain Bandwidth Product | $I_C = -20\text{mA}$ | $V_{CE} = -20\text{V}$ | 50 | 110 | 200 | MHz |
| C_{ob} | Output Capacitance | $I_E = 0$ | $V_{CB} = -20\text{V}$ | | 3.5 | | pF |
| C_{ib} | Input Capacitance | $I_C = 0$ | $V_{EB} = -0.5\text{V}$ | | 45 | | |
| t_{on} | Turn-On Time | $I_{B1} = -10\text{mA}$ | $I_C = -50\text{mA}$ | | 100 | | ns |
| t_{off} | Turn-Off Time | $I_{B2} = -10\text{mA}$ | $I_C = -50\text{mA}$ | | 400 | | |

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