



THE DATASHEET OF BC182L

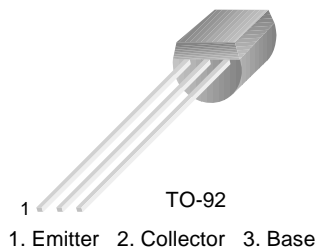


BC182L

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NPN General Purpose Amplifier

- This device is designed for general purpose amplifier application at collector currents to 100mA.
- Sourced from process 10.



Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|----------------|------------------------------------|------------|------------------|
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current - Continuous | 100 | mA |
| T_J, T_{STG} | Storage Junction Temperature Range | - 55 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

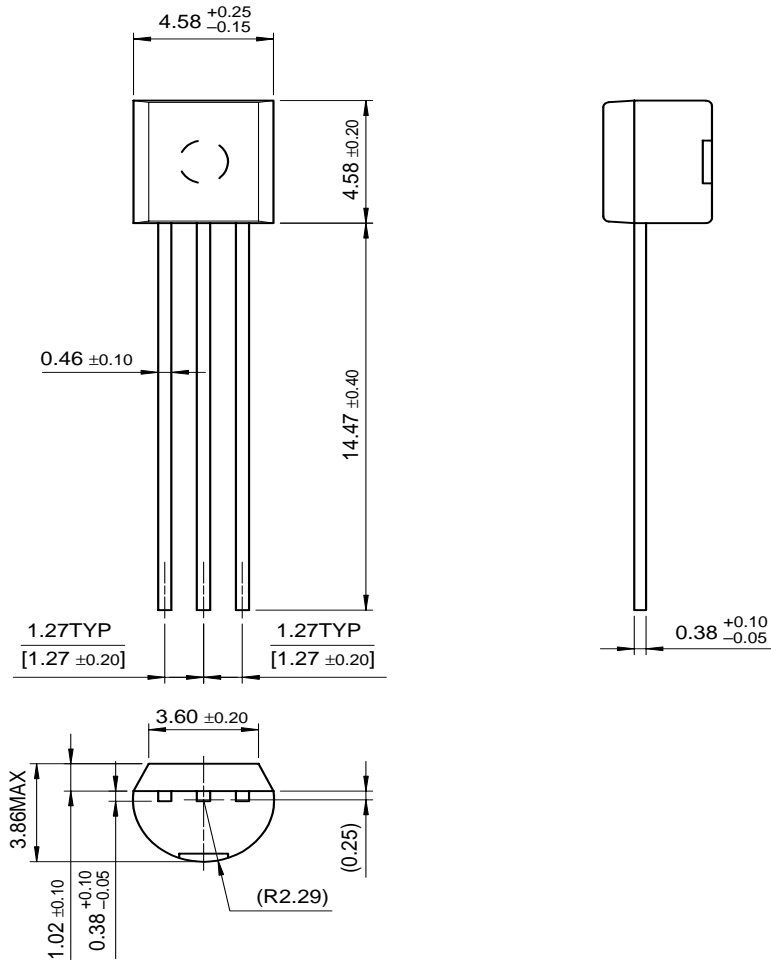
| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|--------------------------------|--------------------------------------|---|-----------------|------|-------------|-------|
| Off Characteristics | | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = 2\text{mA}, I_B = 0$ | 50 | | | V |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = 10\mu\text{A}, I_E = 0$ | 60 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = 100\mu\text{A}, I_C = 0$ | 6 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 50\text{V}, V_{BE} = 0$ | | | 15 | nA |
| I_{EBO} | Emitter-Base Leakage Current | $V_{EB} = 4\text{V}, I_E = 0$ | | | 15 | nA |
| On Characteristics | | | | | | |
| h_{FE} | DC Current Gain | $V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $V_{CE} = 5\text{V}, I_C = 100\text{mA}$ | 40 120 80 | | 500 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5\text{mA}$ | | | 0.25 0.6 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = 100\text{mA}, I_B = 5\text{mA}$ | | | 1.2 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ | 0.55 | | 0.7 | V |
| Dynamic Characteristics | | | | | | |
| f_T | Current Gain Bandwidth Product | $V_{CE} = 5\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$ | 150 | | | MHz |
| C_{ob} | Output Capacitance | $V_{CE} = 10\text{V}, I_C = 0, f = 1\text{MHz}$ | | | 5 | pF |
| h_{fe} | Small Signal Current Gain | $V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{KHz}$ | 240 | | 500 | |
| NF | Noise Figure | $V_{CE} = 5\text{V}, I_C = 0.2\text{mA}$ $R_S = 2\text{K}\Omega, f = 1\text{KHz}, \text{BW} = 200\text{Hz}$ | | | 10 | dB |

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Max. | Units |
|-----------------|--|------------|----------------------------|
| P_D | Total Device Dissipation @ $T_A=25^\circ\text{C}$ Derate above 25°C | 350 2.8 | mW mW/ $^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357 | mW/ $^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case | 125 | $^\circ\text{C}/\text{W}$ |

Package Dimensions

TO-92



Dimensions in Millimeters

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|--------------------------|------------------------|---|
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