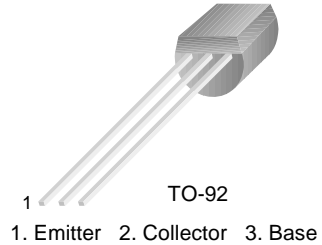


BC183LC

BC183LC

NPN General purpose Amplifier.



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

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------------|
| V_{CBO} | Collector-Base Voltage | 45 | V |
| V_{CEO} | Collector-Emitter Voltage | 30 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current (DC) | 100 | mA |
| P_C | Collector Dissipation ($T_a=25^\circ\text{C}$) | 350 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ\text{C}$ |

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|---|-----------------|------|-------------|-------|
| BV_{CBO} | Collector-Base Voltage | $I_C = 10\mu\text{A}$ | 45 | | | V |
| BV_{CEO} | Collector-Emitter Voltage | $I_C = 2\text{mA}$ | 30 | | | V |
| BV_{EBO} | Emitter-Base Voltage | $I_E = 10\mu\text{A}$ | 5 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 30\text{V}$ | | | 15 | nA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 3\text{V}$ | | | 15 | nA |
| h_{FE} | DC Current Gain | $V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $V_{CE} = 5\text{V}, I_C = 100\text{mA}$ | 40 100 80 | | 850 | |
| $V_{CE(sat)}$ | 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 |
| C_{OB} | Output Capacitance | $V_{CE} = 10\text{V}, f = 1\text{MHz}$ | | | 5 | pF |
| f_T | Current gain Bandwidth Product | $V_{CE} = 5\text{V}, I_C = 10\text{mA}$ | 150 | | | MHz |
| h_{fe} | Small Signal Current Gain | $V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $f = 1\text{KHz}$ | 450 | | 900 | |
| NF | Noise Figure | $V_{CE} = 5\text{V}, I_C = 200\text{mA}$ $R_G = 2\text{K}\Omega, f = 1\text{KHz}$ | | | 10 | dB |

Typical Characteristics

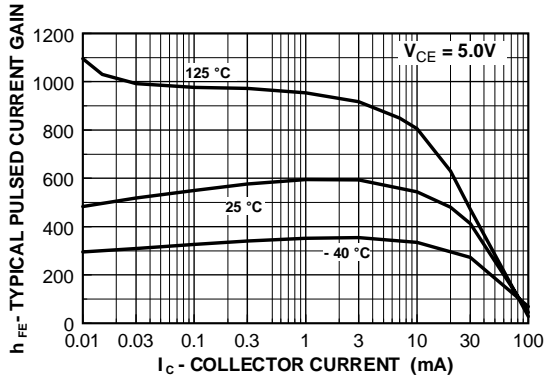


Figure 1. Typical Pulsed Current Gain vs Collector Current

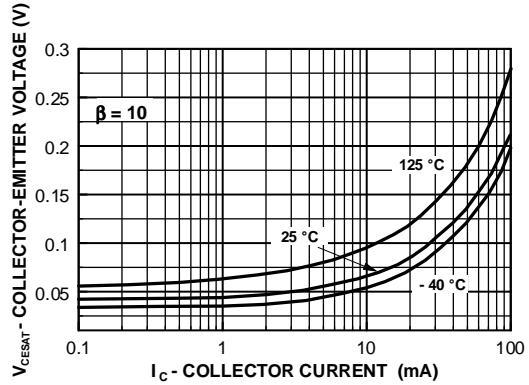


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

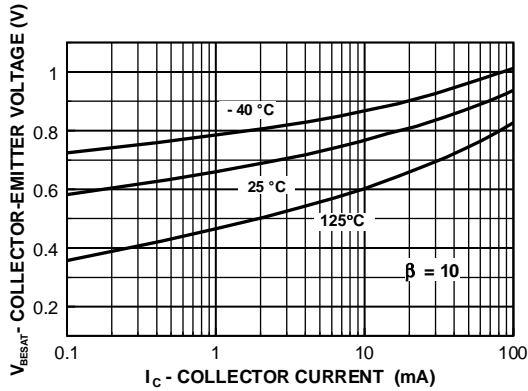


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

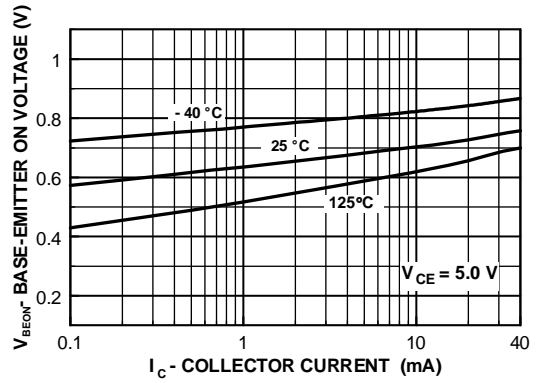


Figure 4. Base-Emitter ON Voltage vs Collector Current

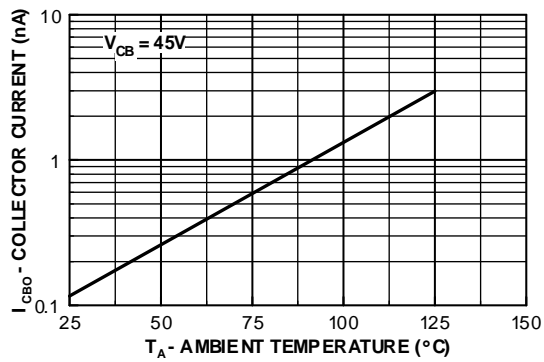


Figure 5. Collector-Cutoff Current vs Ambient Temperature

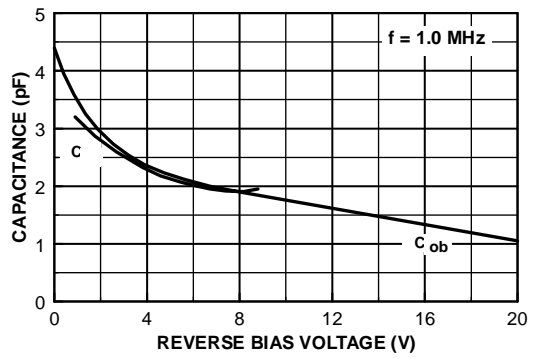


Figure 6. Input and Output Capacitance vs Reverse Bias Voltage

Typical Characteristics (Continued)

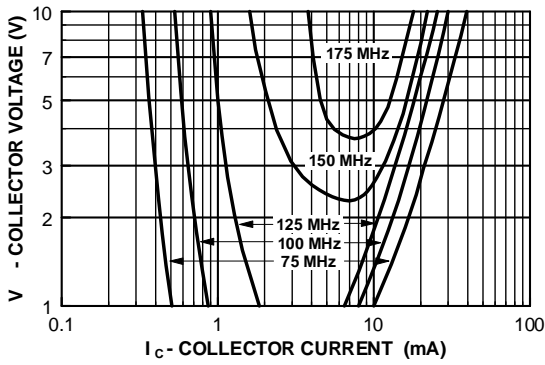


Figure 7. Contours of Constant Gain Bandwidth Product (f_T)

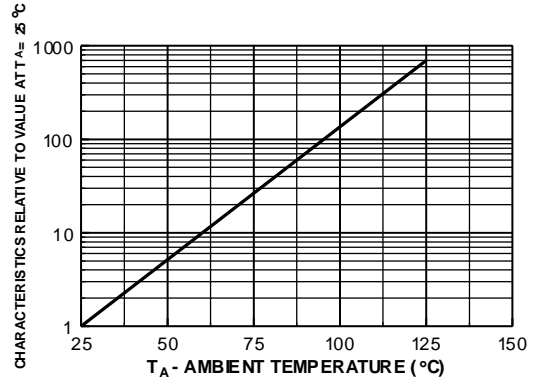


Figure 8. Normalized Collector-Cutoff Current vs Ambient Temperature

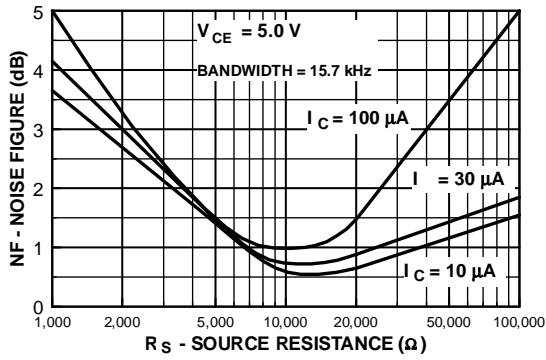


Figure 9. Wideband Noise Frequency vs Source Resistance

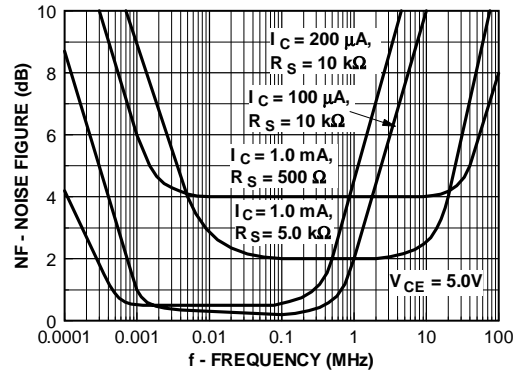


Figure 10. Noise Figure vs Frequency

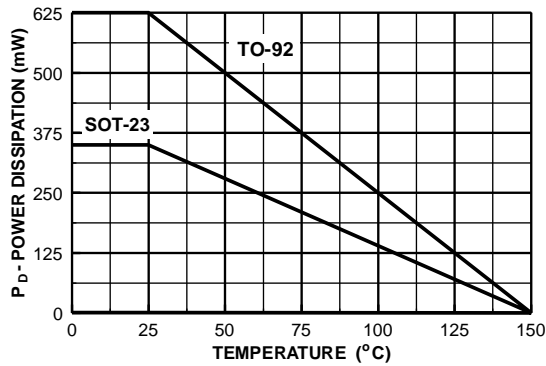


Figure 11. Collector-Cutoff Current vs Ambient Temperature

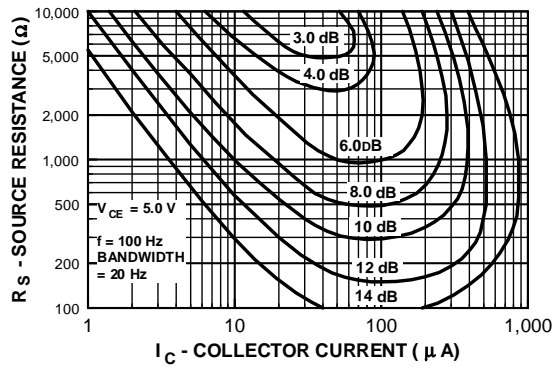


Figure 12. Contours of Constant Narrow Band Noise Figure

Typical Characteristics (Continued)

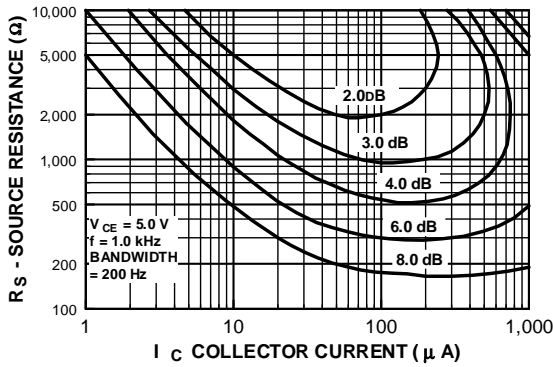


Figure 13. Contours of Constant Narrow Band Noise Figure

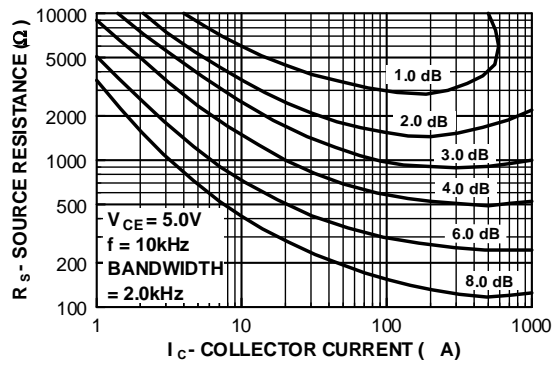


Figure 14. Contours of Constant Narrow Band Noise Figure

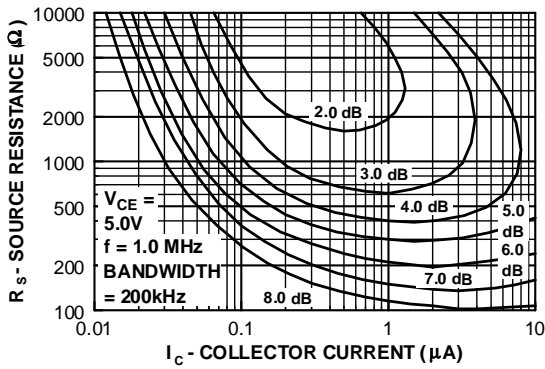


Figure 15. Contours of Constant Narrow Band Noise Figure

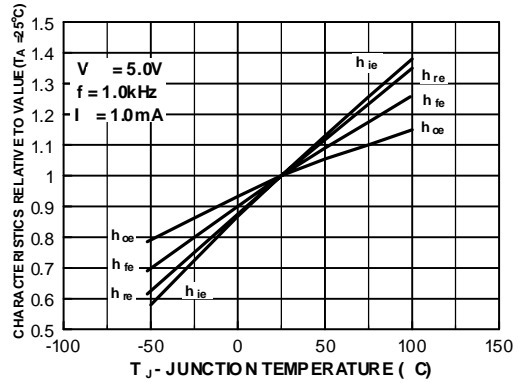


Figure 16. Typical Common Emitter Characteristics

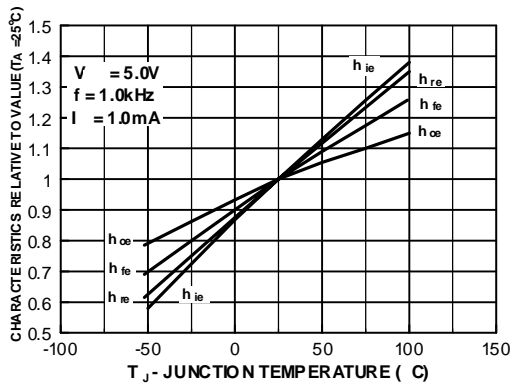


Figure 17. Typical Common Emitter Characteristics

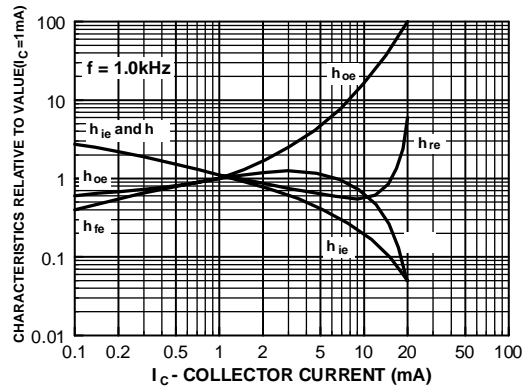
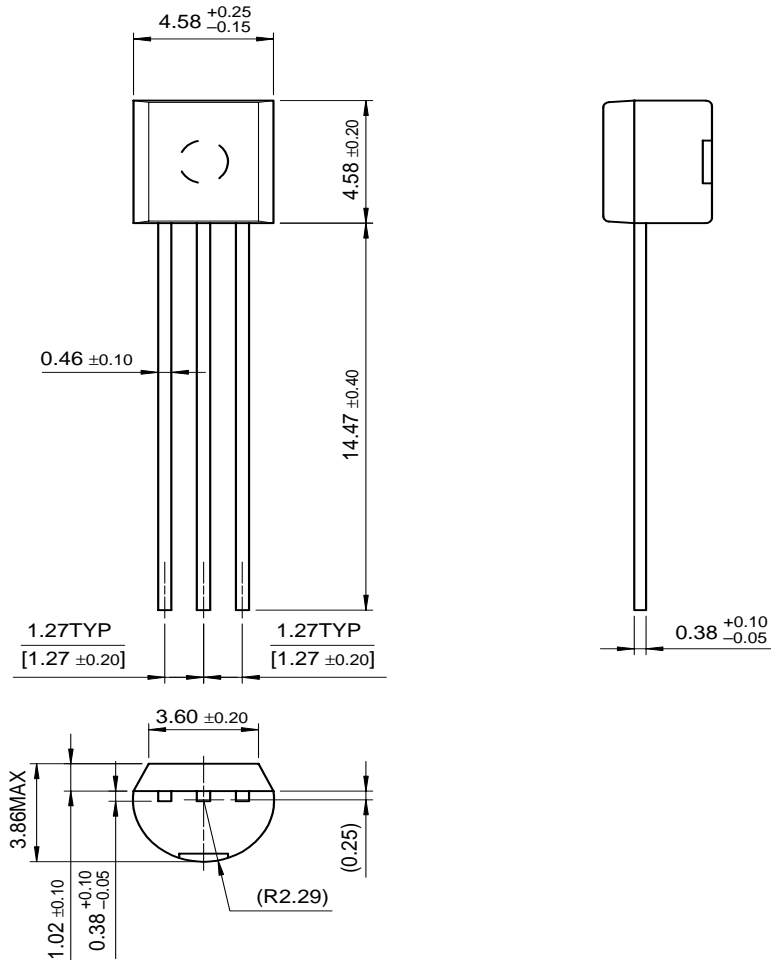


Figure 18. Typical Common Emitter Characteristics

Package Dimensions

TO-92



Dimensions in Millimeters

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