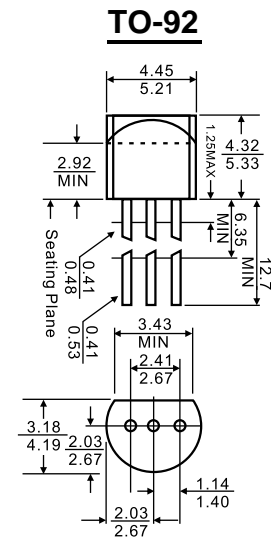




1. EMITTER
2. COLLECTOR
3. BASE



Dimensions in inches and (millimeters)

## Features

- ◇ High current transistors

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

| Symbol    | Parameter                     | Value   | Units            |
|-----------|-------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Emitter Voltage     | BC635   | 45               |
|           |                               | BC637   | 60               |
|           |                               | BC639   | 100              |
| $V_{CEO}$ | Collector-Emitter Voltage     | BC635   | 45               |
|           |                               | BC637   | 60               |
|           |                               | BC639   | 80               |
| $V_{EBO}$ | Emitter-Base Voltage          | 5       | V                |
| $I_C$     | Collector Current -Continuous | 1       | A                |
| $P_C$     | Collector Power Dissipation   | 0.625   | W                |
| $T_J$     | Junction Temperature          | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -65-150 | $^\circ\text{C}$ |

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

| Parameter                            | Symbol                               | Test conditions                                     | MIN | TYP | MAX | UNIT          |
|--------------------------------------|--------------------------------------|---|-----|-----|-----|---------------|
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$                        | $I_C=10\text{mA}, I_B=0$ BC635                      | 45  |     |     | V             |
|                                      |                                      | BC637   | 60  |     |     | V             |
|                                      |                                      | BC639   | 80  |     |     | V             |
| Collector cut-off current            | $I_{CBO}$                            | $V_{CB}=30\text{V}, I_E=0$                          |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$                            | $V_{EB}=5\text{V}, I_B=0$                           |     |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$                          | $V_{CE}=2\text{V}, I_C=5\text{mA}$                  | 25  |     |     |               |
|                                      | $h_{FE(2)}$                          | $V_{CE}=2\text{V}, I_C=150\text{mA}$ BC635          | 40  |     | 250 |               |
|                                      |                                      | BC637-10/BC639-10                                   | 63  |     | 160 |               |
|                                      |                                      | BC637-16/BC639-16                                   | 100 |     | 250 |               |
| $h_{FE(3)}$                          | $V_{CE}=2\text{V}, I_C=500\text{mA}$ | 25  |     |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$                        | $I_C=500\text{mA}, I_B=50\text{mA}$                 |     |     | 0.5 | V             |
| Base-emitter voltage                 | $V_{BE}$                             | $V_{CE}=2\text{V}, I_C=500\text{mA}$                |     |     | 1   | V             |
| Transition frequency                 | $f_T$                                | $V_{CE}=5\text{V}, I_C=10\text{mA}, f=50\text{MHz}$ |     | 100 |     | MHz           |

## Typical Characteristics

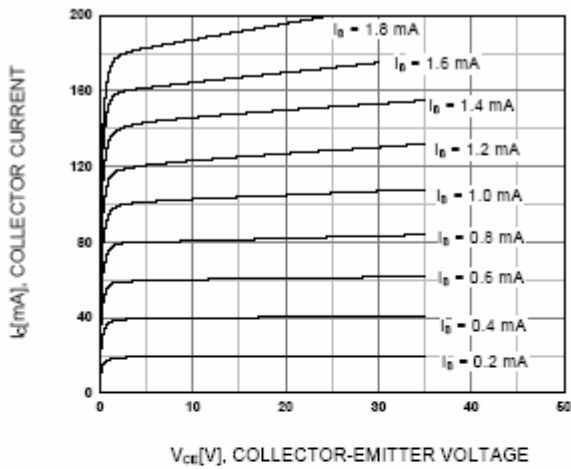


Figure 1. Static Characteristic

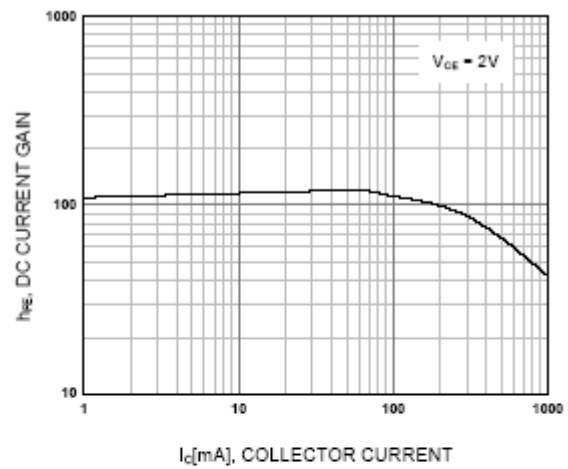


Figure 2. DC current Gain

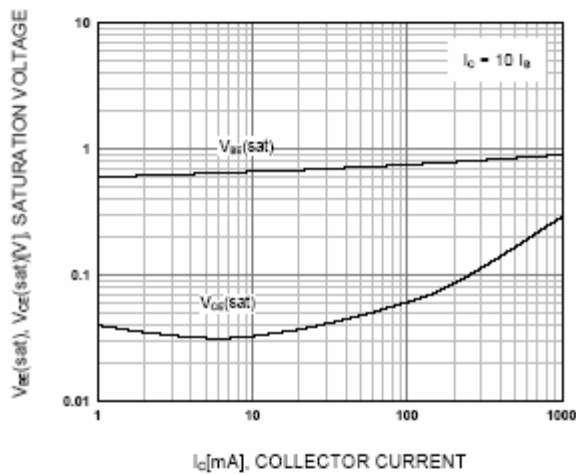


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

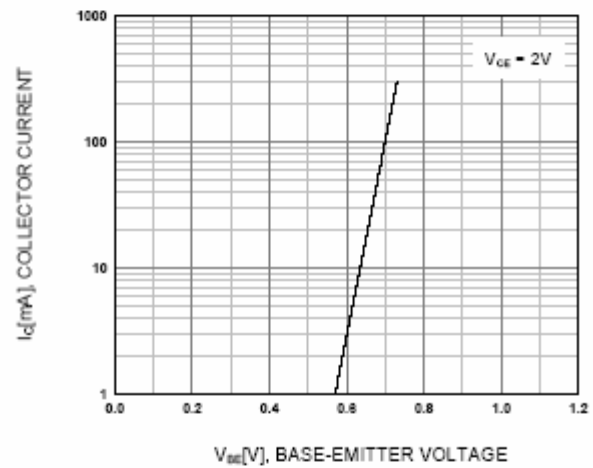


Figure 4. Base-Emitter On Voltage

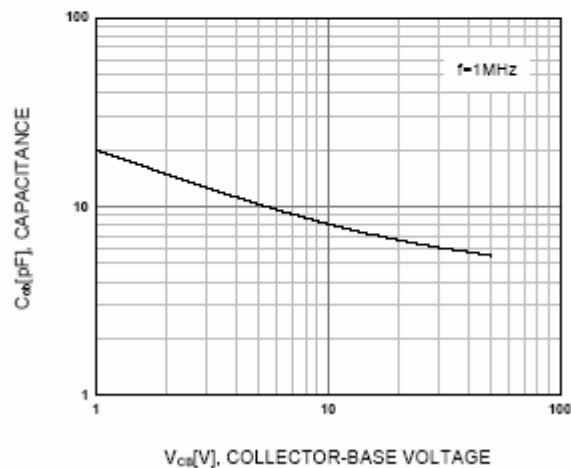


Figure 5. Collector Output Capacitance