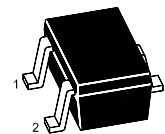


BC856W...BC860W

PNP Silicon Epitaxial Planar Transistor

for general purpose and switching applications



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Value | Unit | |
|---------------------------|------------|---------------|------------------|---|
| Collector Base Voltage | $-V_{CBO}$ | BC856W | 80 | V |
| | | BC857W | 50 | |
| | | BC858W | 30 | |
| | | BC859W | 30 | |
| | | BC860W | 50 | |
| Collector Emitter Voltage | $-V_{CEO}$ | BC856W | 65 | V |
| | | BC857W | 45 | |
| | | BC858W | 30 | |
| | | BC859W | 30 | |
| | | BC860W | 45 | |
| Emitter Base Voltage | $-V_{EBO}$ | 5 | V | |
| Collector Current | $-I_C$ | 100 | mA | |
| Peak Collector Current | $-I_{CM}$ | 100 | mA | |
| Total Power Dissipation | P_{tot} | 200 | mW | |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ | |
| Storage Temperature Range | T_{Stg} | - 55 to + 150 | $^\circ\text{C}$ | |

BC856W...BC860W

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Min. | Max. | Unit |
|--|---|----------------------------|-----------------------|-------------|
| DC Current Gain at $-V_{CE} = 5\text{ V}$, $-I_C = 2\text{ mA}$ | BC856AW~BC860AW h_{FE} BC856BW~BC860BW h_{FE} BC856CW~BC860CW h_{FE} | 125 220 420 | 250 475 800 | - - - |
| Collector Base Voltage at $-I_C = 10\text{ }\mu\text{A}$ | BC856W BC857W BC858W BC859W BC860W $-V_{CBO}$ | 80 50 30 30 50 | - - - - - | V |
| Collector Emitter Voltage at $-I_C = 10\text{ mA}$ | BC856W BC857W BC858W BC859W BC860W $-V_{CEO}$ | 65 45 30 30 45 | - - - - - | V |
| Emitter Base Voltage at $-I_E = 1\text{ }\mu\text{A}$ | $-V_{EBO}$ | 5 | - | V |
| Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$ | $-I_{CBO}$ | - | 15 | nA |
| Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$ | $-I_{EBO}$ | - | 100 | nA |
| Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 0.5\text{ mA}$ $-I_C = 100\text{ mA}$, $-I_B = 5\text{ mA}$ | $-V_{CE(sat)}$ | - - | 0.3 0.65 | V |
| Base Emitter Voltage at $-V_{CE} = 5\text{ V}$, $-I_C = 2\text{ mA}$ $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$ | $-V_{BE}$ | 0.6 - | 0.75 0.82 | V |
| Transition Frequency at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$ | f_T | 100 | - | MHz |
| Output Capacitance at $-V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$ | C_{ob} | - | 4.5 | pF |

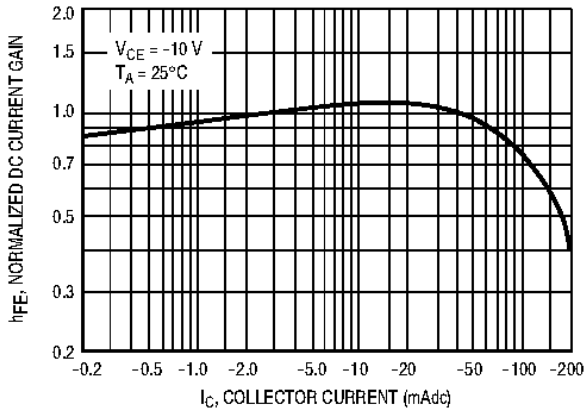


Figure 1. Normalized DC Current Gain

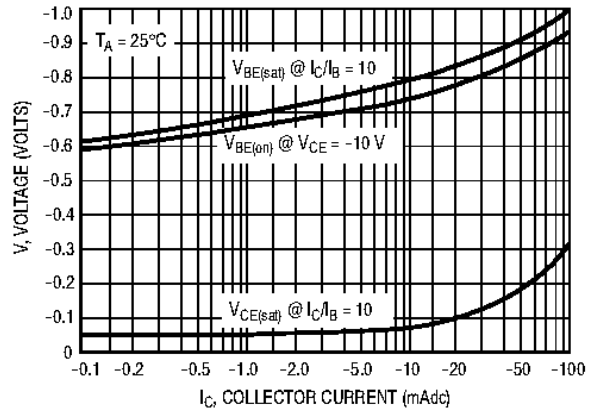


Figure 2. "Saturation" and "On" Voltages

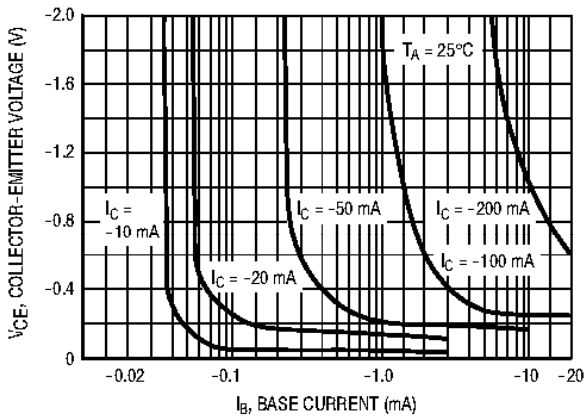


Figure 3. Collector Saturation Region

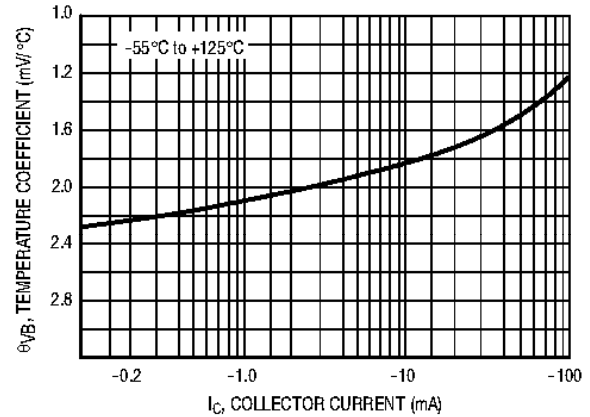


Figure 4. Base-Emitter Temperature Coefficient

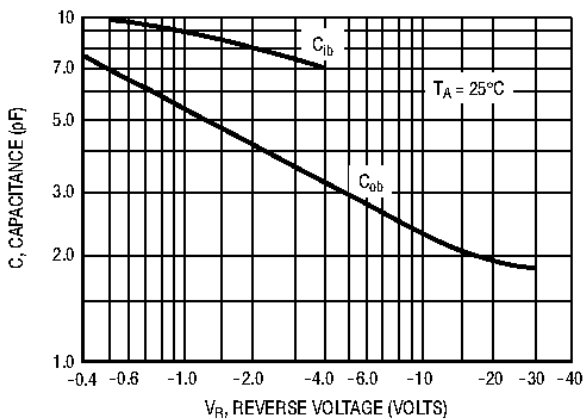


Figure 5. Capacitances

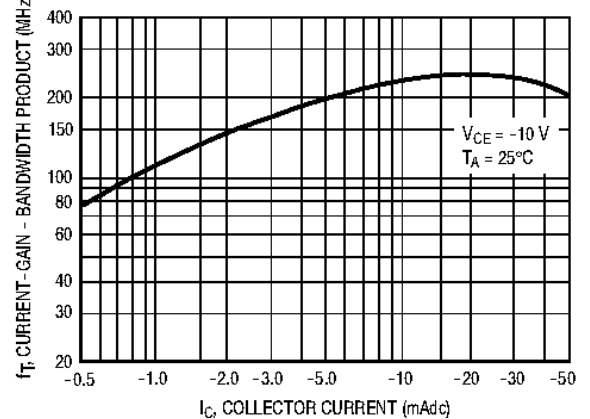


Figure 6. Current-Gain - Bandwidth Product

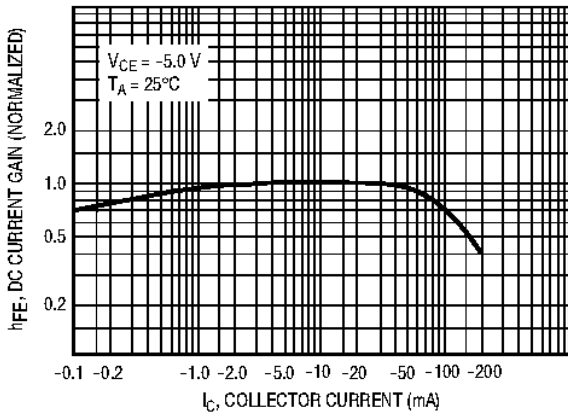


Figure 7. DC Current Gain

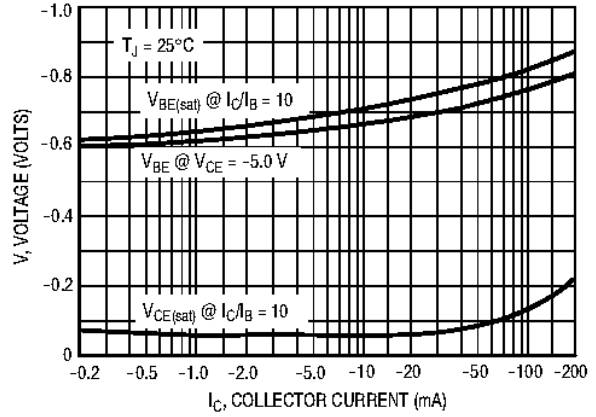


Figure 8. "On" Voltage

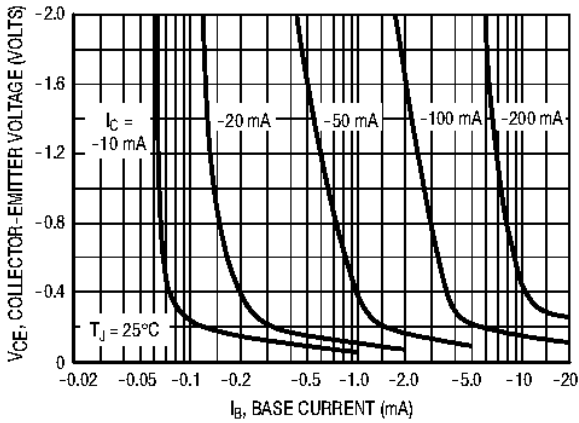


Figure 9. Collector Saturation Region

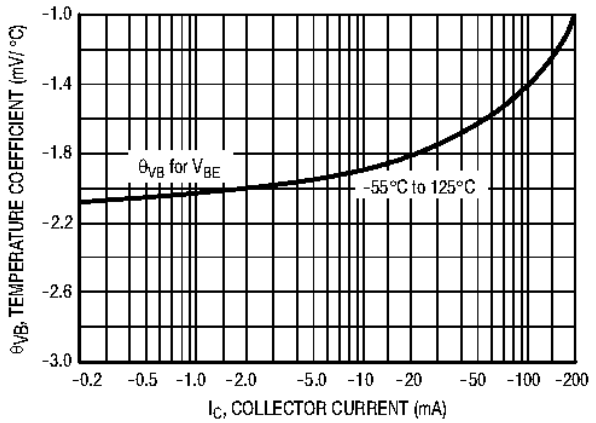


Figure 10. Base-Emitter Temperature Coefficient

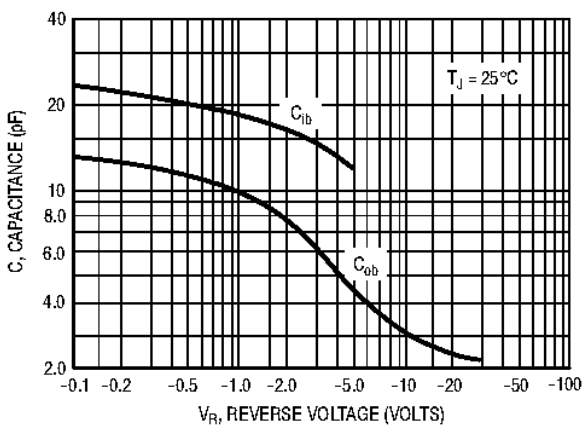


Figure 11. Capacitance

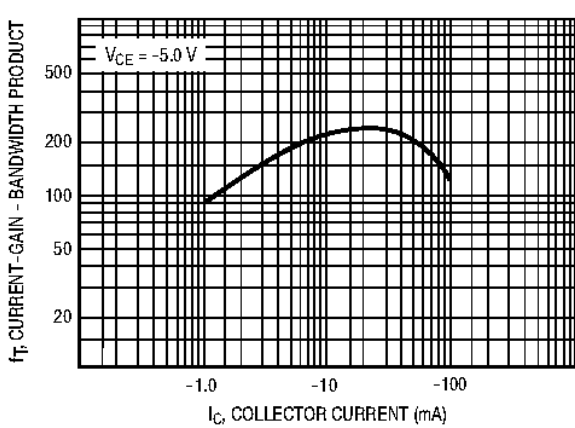


Figure 12. Current-Gain - Bandwidth Product