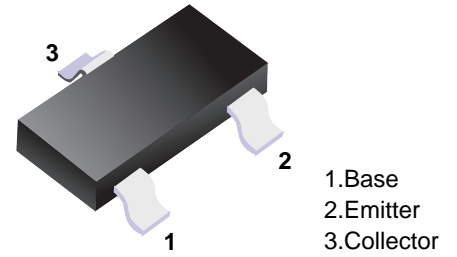


■ PNP Transistors



■ Simplified outline(SOT-23)

■ Features

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | BC856 | BC857 | BC858 | Unit |
|--------------------------------|------------------|------------|-------|-------|------|
| Collector - Base Voltage | V _{CB0} | -80 | -50 | -30 | V |
| Collector - Emitter Voltage | V _{CE0} | -65 | -45 | -30 | |
| Emitter - Base Voltage | V _{EB0} | -5 | | | |
| Collector Current - Continuous | I _c | -100 | | | mA |
| Collector Power Dissipation | P _c | 200 | | | mW |
| Junction Temperature | T _J | 150 | | | °C |
| Storage Temperature range | T _{stg} | -55 to 150 | | | |

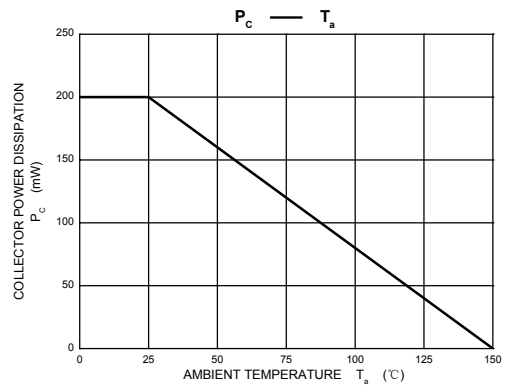
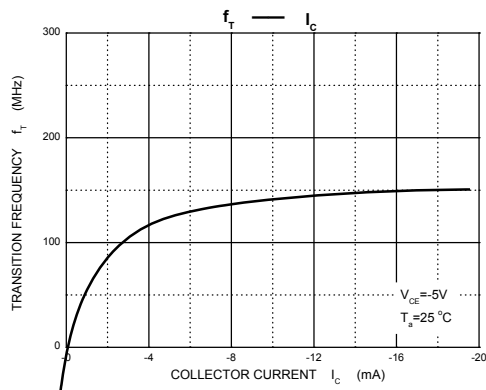
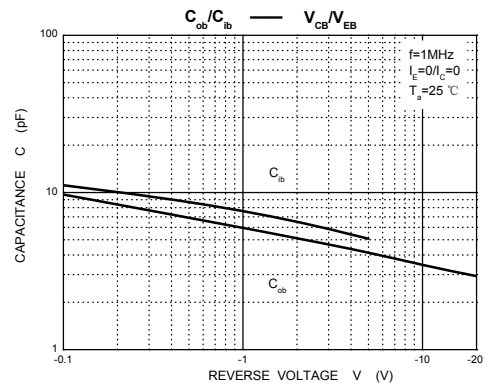
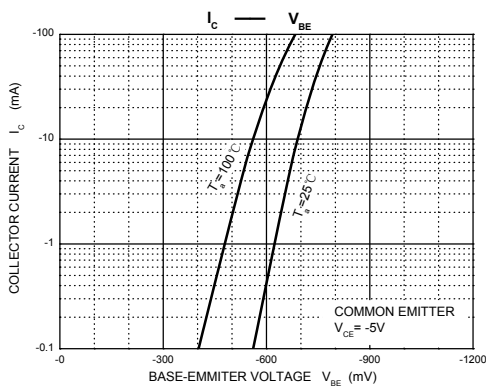
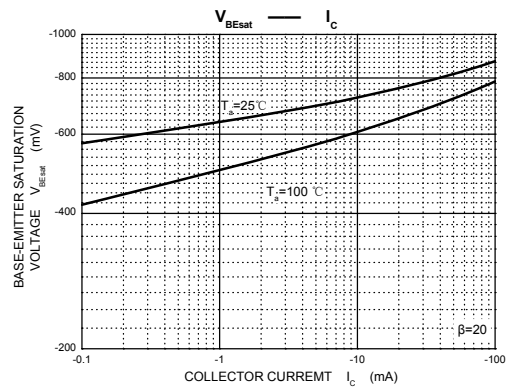
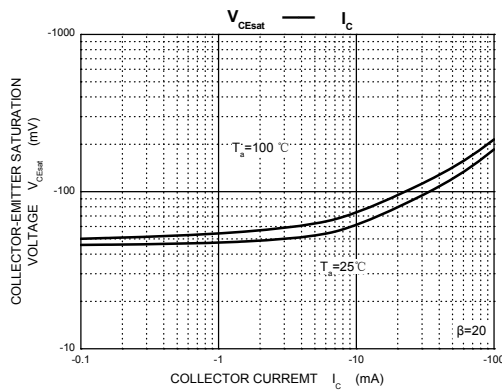
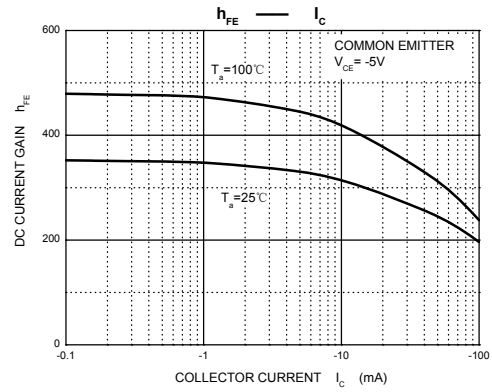
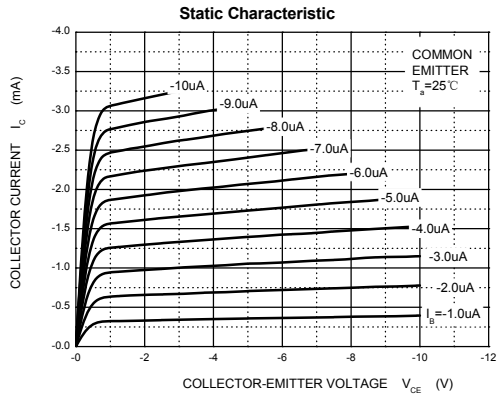
■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit | |
|--------------------------------------|------------------|---|----------------------------|-----|------|------|--|
| Collector- base breakdown voltage | BC856 | $I_C = -100 \mu A, I_E = 0$ | -80 | | | V | |
| | BC857 | | -50 | | | | |
| | BC858 | | -30 | | | | |
| Collector- emitter breakdown voltage | BC856 | $I_C = -1mA, I_B = 0$ | -65 | | | V | |
| | BC857 | | -45 | | | | |
| | BC858 | | -30 | | | | |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = -100 \mu A, I_C = 0$ | -5 | | | | |
| Collector-base cut-off current | BC856 | I_{CBO} | $V_{CB} = -70V, I_E = 0$ | | | nA | |
| | BC857 | | $V_{CB} = -45V, I_E = 0$ | | | | |
| | BC858 | | $V_{CB} = -25V, I_E = 0$ | | | | |
| Collector- emittercut-off current | BC856 | I_{CEO} | $V_{CE} = -55V, I_E = 0$ | | | -1 | |
| | BC857 | | $V_{CE} = -40V, I_E = 0$ | | | | |
| | BC858 | | $V_{CE} = -25V, I_E = 0$ | | | | |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | | -100 | nA | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -5mA$ | | | -0.5 | V | |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -100mA, I_B = -5mA$ | | | -1.1 | | |
| DC current gain | BC856A,857A,858A | h_{FE} | $V_{CE} = -5V, I_C = -2mA$ | 125 | | 250 | |
| | BC856B,857B,858B | | | 220 | | 475 | |
| | BC856C,857C,858C | | | 420 | | 800 | |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, f = 1MHz$ | | | 4.5 | pF | |
| Transition frequency | f_T | $V_{CE} = -5V, I_C = -10mA, f = 100MHz$ | 100 | | | MHz | |

■ Classification of hfe

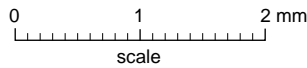
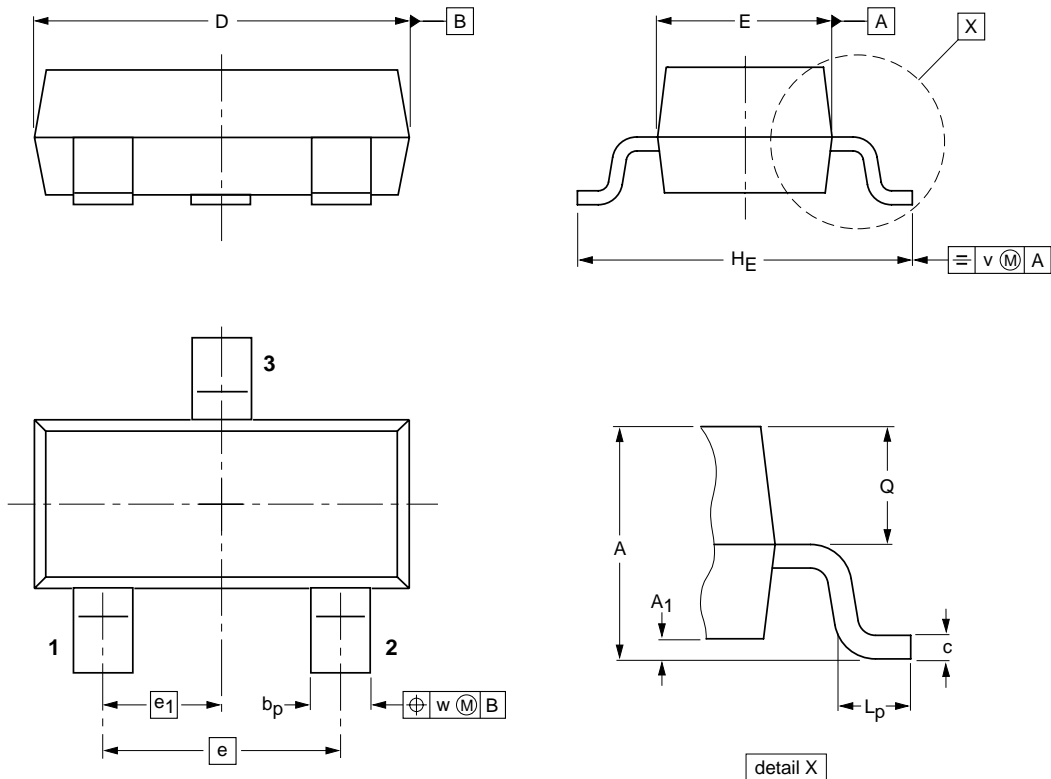
| Type | BC856A | BC856B | BC856C | BC857A | BC857B | BC857C | BC858A | BC858B | BC858C |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Range | 125-250 | 220-475 | 420-800 | 125-250 | 220-475 | 420-800 | 125-250 | 220-475 | 420-800 |
| Marking | 3A | 3B | 3C | 3E | 3F | 3G | 3J | 3K | 3L |

■ Typical Characteristics



Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max. | b _p | c | D | E | e | e ₁ | H _E | L _p | Q | v | w |
|------|------------|---------------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm | 1.1 0.9 | 0.1 | 0.48 0.38 | 0.15 0.09 | 3.0 2.8 | 1.4 1.2 | 1.9 | 0.95 | 2.5 2.1 | 0.45 0.15 | 0.55 0.45 | 0.2 | 0.1 |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOT-23 | Tape/Reel, 7" reel | 3000 | EIA-481-1 |

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