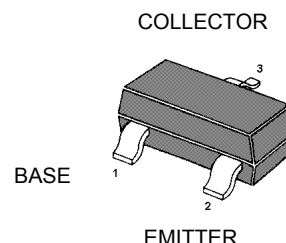


### TRANSISTOR (NPN) FEATURE

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: (PNP)



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

| Symbol    | Parameter                     | Value   | Units            |
|-----------|-------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage        | 50      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage     | 45      | V                |
| $V_{EBO}$ | Emitter-Base Voltage          | 5       | V                |
| $I_C$     | Collector Current -Continuous | 0.5     | A                |
| $P_C$     | Collector Power Dissipation   | 0.3     | W                |
| $T_j$     | Junction Temperature          | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature           | -55-150 | $^\circ\text{C}$ |

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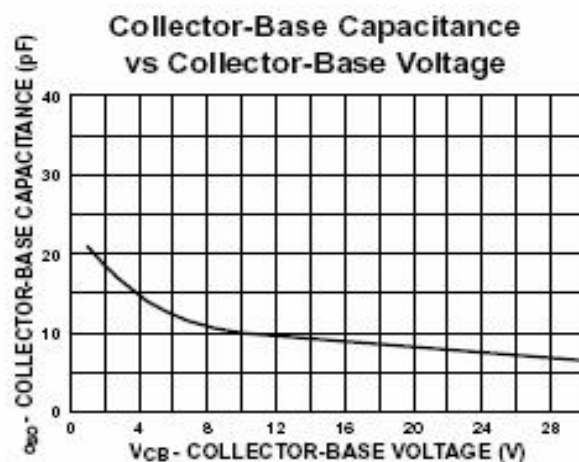
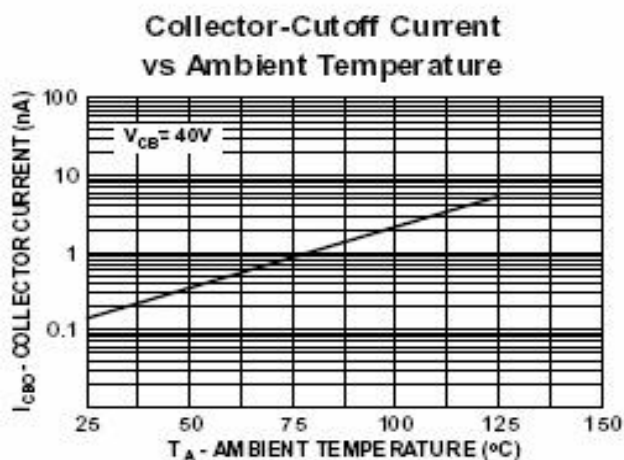
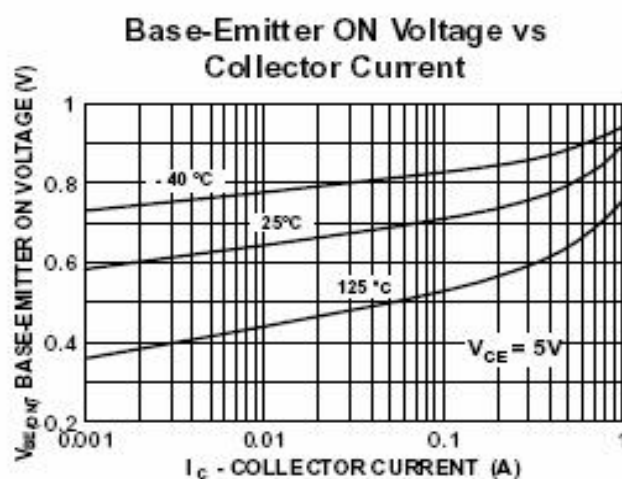
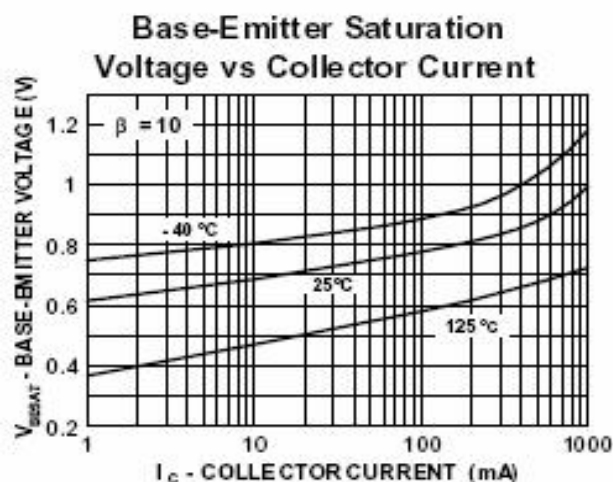
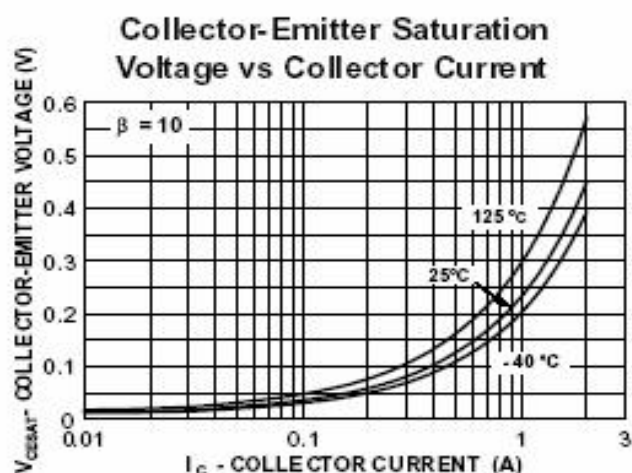
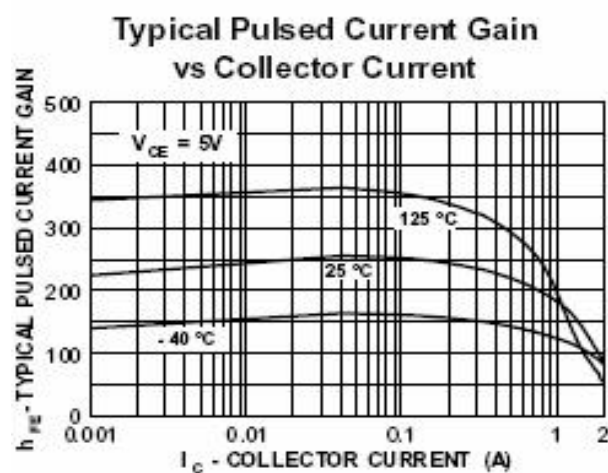
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                                   | MIN |    | MAX | UNIT          |
|--------------------------------------|---------------|-------------------------------------------------------------------|-----|----|-----|---------------|
| Collector-base breakdown voltage     | $V_{CBO}$     | $I_C = 10\mu\text{A}$ , $I_E = 0$                                 | 50  |    |     | V             |
| Collector-emitter breakdown voltage  | $V_{CEO}$     | $I_C = 10\text{mA}$ , $I_B = 0$                                   | 45  |    |     | V             |
| Emitter-base breakdown voltage       | $V_{EBO}$     | $I_E = 1\mu\text{A}$ , $I_C = 0$                                  | 5   |    |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 45\text{V}$ , $I_E = 0$                                 |     |    | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 4\text{V}$ , $I_C = 0$                                  |     |    | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = 1\text{V}$ , $I_C = 100\text{mA}$                       | 160 |    | 400 |               |
|                                      | $h_{FE(2)}$   | $V_{CE} = 1\text{V}$ , $I_C = 500\text{mA}$                       | 40  |    |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500\text{mA}$ , $I_B = 50\text{mA}$                        |     |    | 0.7 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 500\text{mA}$ , $I_B = 50\text{mA}$                        |     |    | 1.2 | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE} = 1\text{V}$ , $I_C = 500\text{mA}$                       |     |    | 1.2 | V             |
| Collector capacitance                | $C_{ob}$      | $V_{CB} = 10\text{V}$ , $f = 1\text{MHz}$                         |     | 10 |     | pF            |
| Transition frequency                 | $f_T$         | $V_{CE} = 5\text{V}$ , $I_C = 10\text{mA}$<br>$f = 100\text{MHz}$ | 100 |    |     | MHz           |

### CLASSIFICATION OF $h_{FE(1)}$

|         |          |
|---------|----------|
| Rank    | BC817-25 |
| Range   | 160-400  |
| Marking | 6B       |

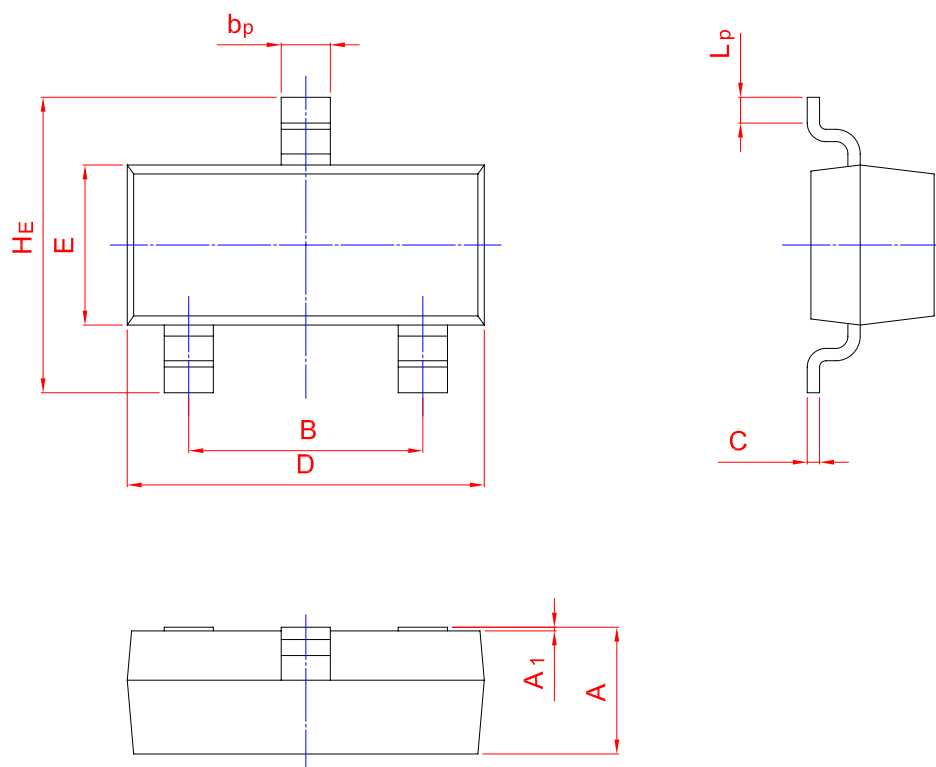
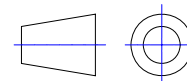
## Typical Characteristics



### PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

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| UNIT | A            | B            | bp           | C            | D            | E            | HE           | A1             | Lp           |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|
| mm   | 1.40<br>0.95 | 2.04<br>1.78 | 0.50<br>0.35 | 0.19<br>0.08 | 3.10<br>2.70 | 1.65<br>1.20 | 3.00<br>2.20 | 0.100<br>0.013 | 0.50<br>0.20 |