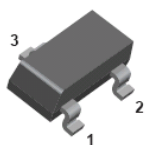
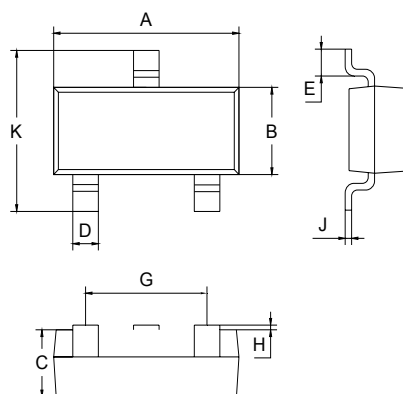


Features

- For general AF applications
- Complementary NPN type available BC807
- High collector current, High current gain
- Low collector-emitter saturation voltage



1. BASE
2. EMITTER
3. COLLECTOR



| SOT-23 | | |
|----------------------|-------------|------|
| Dim | Min | Max |
| A | 2.70 | 3.10 |
| B | 1.10 | 1.50 |
| C | 1.0 Typical | |
| D | 0.4 Typical | |
| E | 0.35 | 0.48 |
| G | 1.80 | 2.00 |
| H | 0.02 | 0.1 |
| J | 0.1 Typical | |
| K | 2.20 | 2.60 |
| All Dimensions in mm | | |

Ordering Information

| Type No. | Marking | Package Code |
|-----------------|------------|---------------|
| BC817-16 | 6A | SOT-23 |
| BC817-25 | 6B• | SOT-23 |
| BC817-40 | 6C | SOT-23 |

MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol | Parameter | Value | Unit |
|-----------------------------------|----------------------------------|-------------|------|
| V _{CB0} | Collector- Base Voltage | 50 | V |
| V _{CE0} | Collector- Emitter Voltage | 45 | V |
| V _{EBO} | Emitter- Base Voltage | 5 | V |
| I _c | Collector Current - Continuous | 500 | mA |
| P _c | Collector Dissipation | 300 | mW |
| T _j , T _{stg} | Junction and Storage Temperature | -55 to +150 | °C |



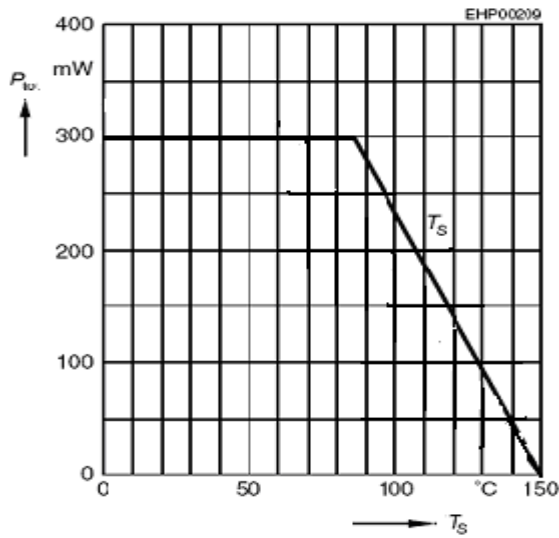
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---------------------------------------|---------------|--------------------------------------|-----|-----|-----|---------|
| Collector- base breakdown voltage | $V_{(BR)CBO}$ | $I_C=10\mu A$ $I_E=0$ | 50 | | | V |
| Collector- emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10mA$ $I_B=0$ | 45 | | | V |
| Emitter- base breakdown voltage | $V_{(BR)EBO}$ | $I_E=10\mu A$ $I_C=0$ | 5 | | | μV |
| Collector cut-off current | I_{CBO} | $V_{CB}=25V$ $I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{CE}=4V$ $I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=1V$ $I_C=100mA$ | 100 | | 250 | |
| | | $V_{CE}=1V$ $I_C=300mA$ | 60 | | | |
| | | | 160 | | 400 | |
| | | | 250 | | 600 | |
| Collector- emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500mA$ $I_B=50mA$ | | | 0.7 | V |
| Base- emitter saturation voltage | $V_{BE(sat)}$ | $I_C=500mA$ $I_B=50mA$ | | | 1.2 | V |
| Output capacitance | C_{obo} | $V_{CB}=10V, f=1MHz$ | | 6 | | pF |
| Transition frequency | f_T | $V_{CE}=5V$ $I_C=50mA$ $f=100MHz$ | | 170 | | MHz |

CLASSIFICATION OF $H_{FE(1)}$

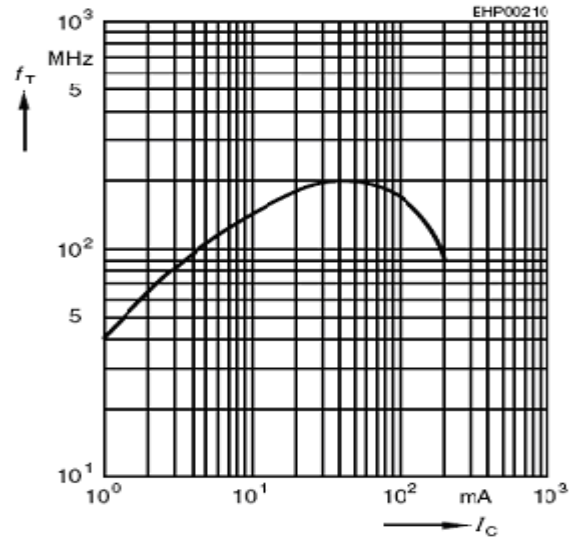
| Rank | BC817- 16 | BC817-25 | BC817-40 |
|---------|-----------|----------|----------|
| Range | 100-250 | 160-400 | 250-600 |
| Marking | 6A | 6B- | 6C |

Total power dissipation $P_{tot} = f(T_S)$



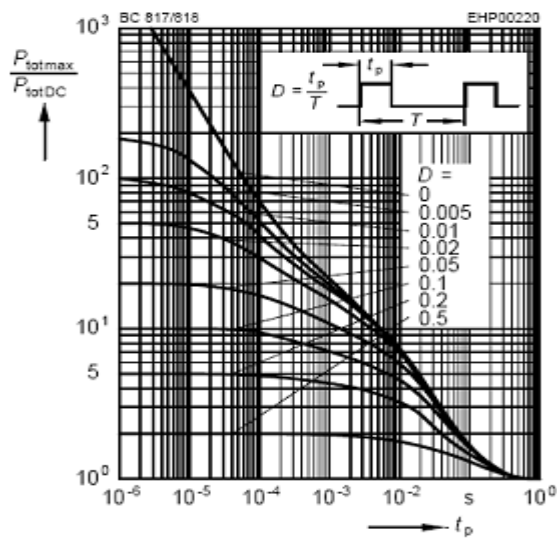
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5V$



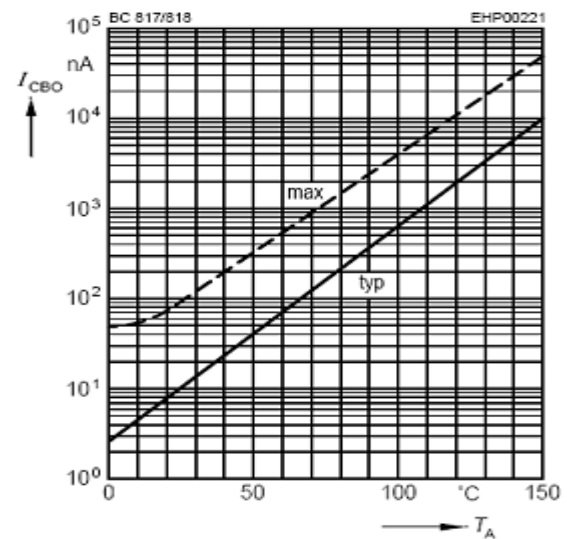
Permissible pulse load

$P_{totmax} / P_{totDC} = f(t_p)$



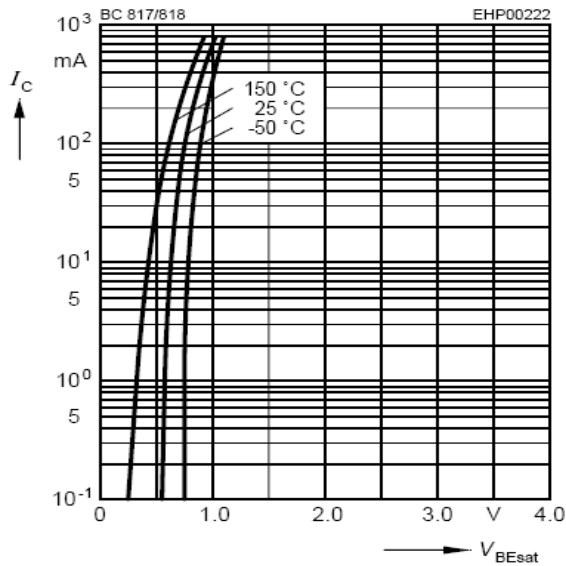
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CBO} = 25V$



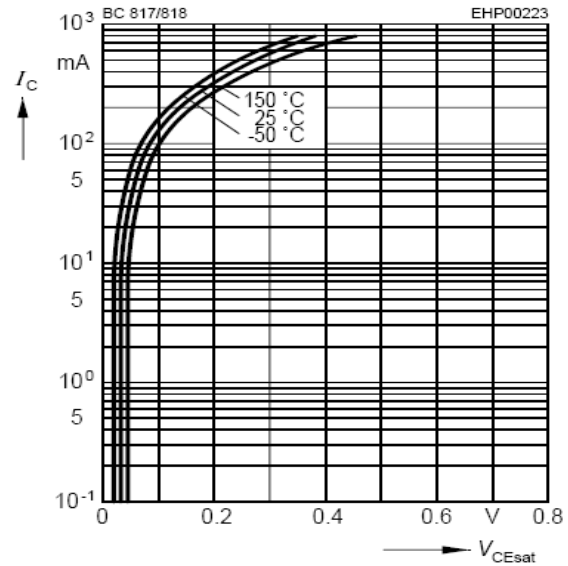
Base-emitter saturation voltage

$I_C = f(V_{BEsat}), h_{FE} = 10$



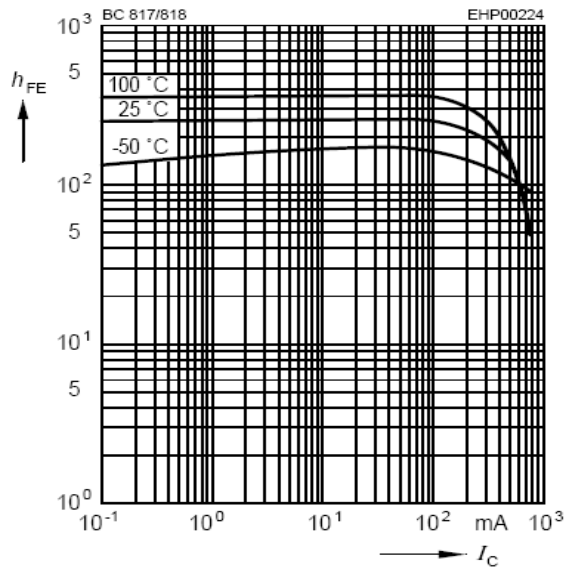
Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$



DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 1V$



| Device | Package | Shipping |
|-------------------|---------|----------------|
| BC817- 16/-25/-40 | SOT-23 | 3000/Tape&Reel |