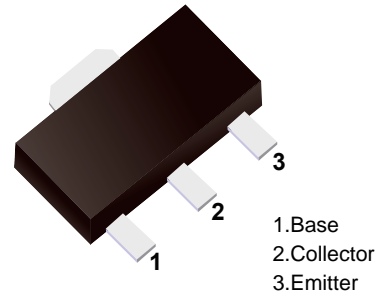


NPN Transistors

■ Features

- High current (max. 1 A).
- Low voltage (max. 80 V).



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings Ta = 25°C

| Parameter | | Symbol | Rating | Unit |
|--|-------|----------------------|-------------|------|
| Collector-base voltage | BCX54 | V _{CB0} | 45 | V |
| | BCX55 | | 60 | V |
| | BCX56 | | 100 | V |
| Collector-emitter voltage | BCX54 | V _{CEO} | 45 | V |
| | BCX55 | | 60 | V |
| | BCX56 | | 80 | V |
| Emitter-base voltage | | V _{EB0} | 5 | V |
| Collector current | | I _C | 1 | A |
| Peak collector current | | I _{CM} | 1.5 | A |
| Peak base current | | I _{BM} | 0.2 | A |
| Total power dissipation | | P _{tot} | 1.3 | W |
| Storage temperature | | T _{stg} | -65 to +150 | °C |
| Junction temperature | | T _j | 150 | °C |
| Operating ambient temperature | | T _{amb} | -65 to +150 | °C |
| Thermal resistance from junction to ambient | | R _{th(j-a)} | 94 | K/W |
| Thermal resistance from junction to solder point | | R _{th(j-s)} | 14 | K/W |

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--|-------------------------|--|-----|-----|-----|------|
| Collector cutoff current | I _{CBO} | V _{CB} = 30 V, I _E = 0 | | | 100 | nA |
| | | V _{CB} = 30 V, I _E = 0; T _j = 125°C | | | 10 | μA |
| Emitter cutoff current | I _{EBO} | V _{EB} = 5 V, I _C = 0 | | | 100 | nA |
| DC current gain | h _{FE} | I _C = 5 mA; V _{CE} = 2 V | 63 | | | |
| | | I _C = 150 mA; V _{CE} = 2 V | 63 | | 250 | |
| | | I _C = 500 mA; V _{CE} = 2 V | 40 | | | |
| DC current gain BCX54-10,BCX55-10,BCX56-10 BCX54-16,BCX55-16,BCX56-16 | h _{FE} | I _C = 150 mA; V _{CE} = 2 V | 63 | | 160 | |
| | | I _C = 150 mA; V _{CE} = 2 V | 100 | | 250 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C = 500 mA; I _B = 50 mA | | | 0.5 | V |
| Base to emitter voltage | V _{BE} | I _C = 500 mA; V _{CE} = 2 V | | | 1 | V |
| Transition frequency | f _T | I _C = 10 mA; V _{CE} = 5 V; f = 100 MHz | | 130 | | MHz |
| DC current gain ratio of the complementary pairs | $\frac{h_{FE}}{h_{FE}}$ | I _C = 150 mA; V _{CE} = 2 V | | 1.3 | 1.6 | |

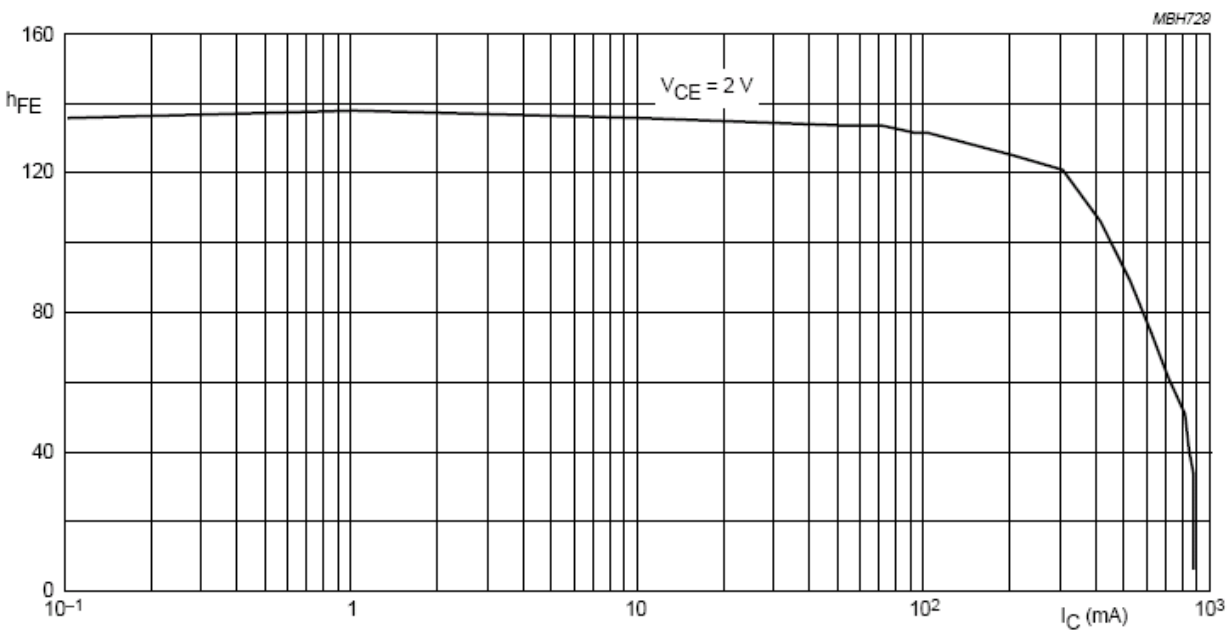
■ hFE Classification

| TYPE | BCX54 | BCX54-10 | BCX54-16 |
|---------|-------|----------|----------|
| Marking | BA | BC | BD |

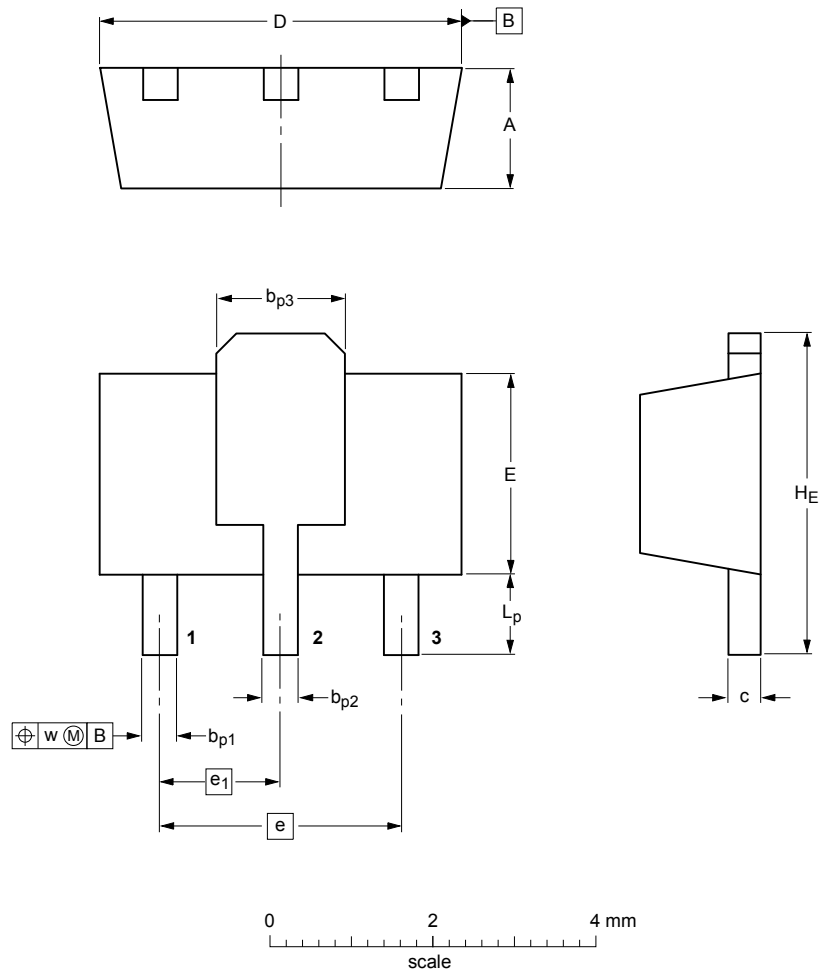
| TYPE | BCX55 | BCX55-10 | BCX55-16 |
|---------|-------|----------|----------|
| Marking | BE | BG | BM |

| TYPE | BCX56 | BCX56-10 | BCX56-16 |
|---------|-------|----------|----------|
| Marking | BH | BK | BL |

■ Typical Characteristics



■ SOT-89



DIMENSIONS (mm are the original dimensions)

| UNIT | A | b_{p1} | b_{p2} | b_{p3} | c | D | E | e | e_1 | H_E | L_p | w |
|------|-----|----------|----------|----------|------|-----|-----|-----|-------|-------|-------|------|
| mm | 1.6 | 0.48 | 0.53 | 1.8 | 0.44 | 4.6 | 2.6 | 3.0 | 1.5 | 4.25 | 1.2 | 0.13 |
| | 1.4 | 0.35 | 0.40 | 1.4 | 0.23 | 4.4 | 2.4 | | | | | |

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