

FEATURES

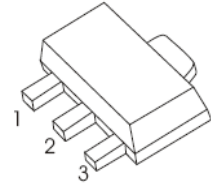
- NPN Complements to BCX54,BCX55,BCX56
- Low Voltage
- High Current

APPLICATIONS

- Medium Power General Purposes
- Driver Stages of Audio Amplifiers

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



MARKING:BCX51:AA, BCX51-10:AC, BCX51-16:AD
BCX52:AE, BCX52-10:AG, BCX52-16:AM
BCX53:A H, BCX53-10:AK, BCX53-16:AL

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------------|---|----------|------|
| V_{CBO} | Collector-Base Voltage | BCX51 | -45 |
| | | BCX52 | -60 |
| | | BCX53 | -100 |
| V_{CEO} | Collector-Emitter Voltage | BCX51 | -45 |
| | | BCX52 | -60 |
| | | BCX53 | -80 |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current | -1 | A |
| P_C | Collector Power Dissipation | 500 | mW |
| R_{θJA} | Thermal Resistance From Junction To Ambient | 250 | °C/W |
| T_j | Junction Temperature | 150 | °C |
| T_{stg} | Storage Temperature | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

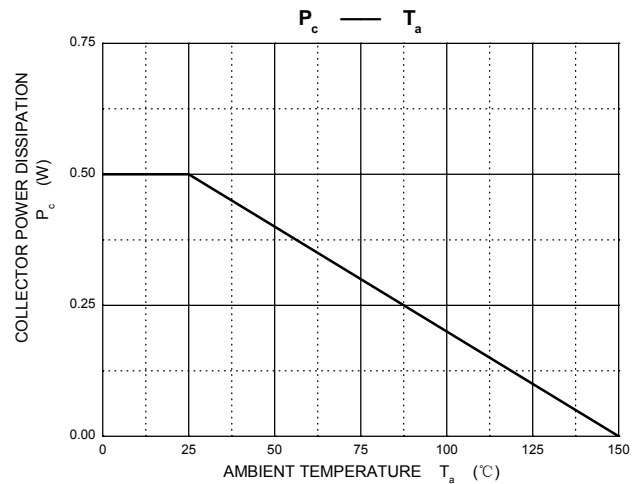
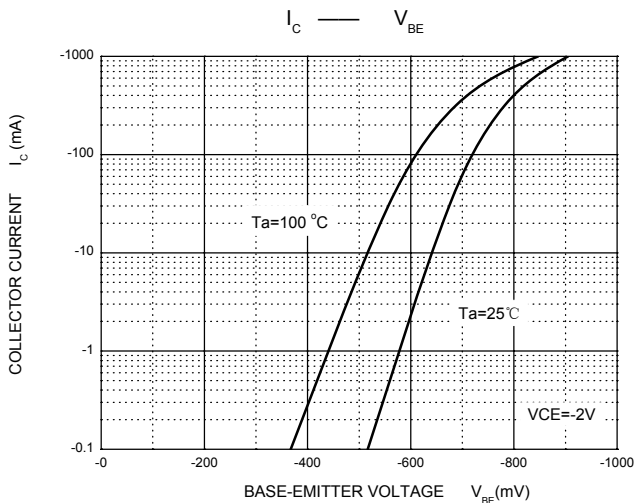
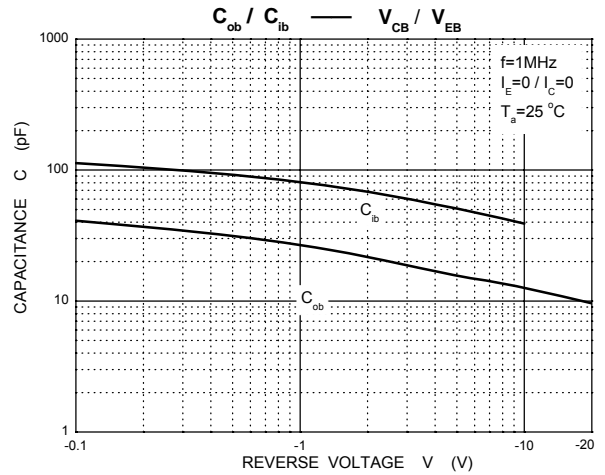
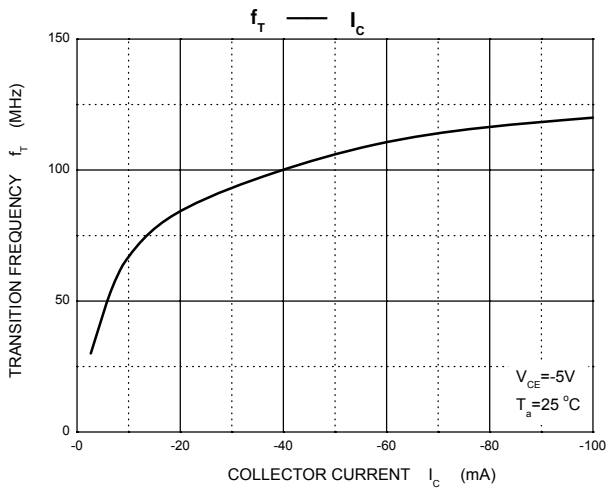
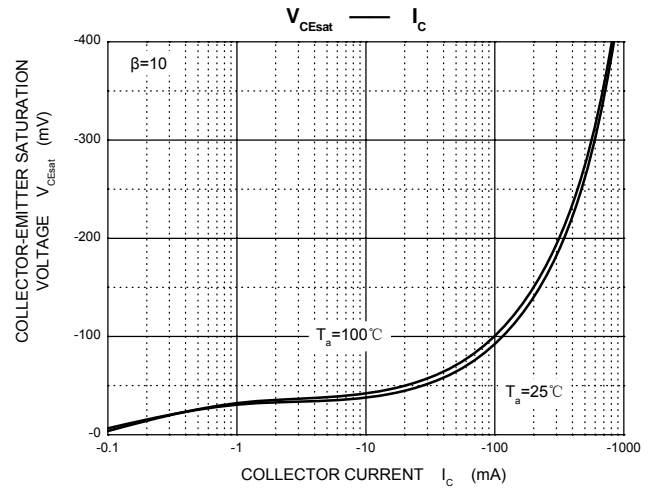
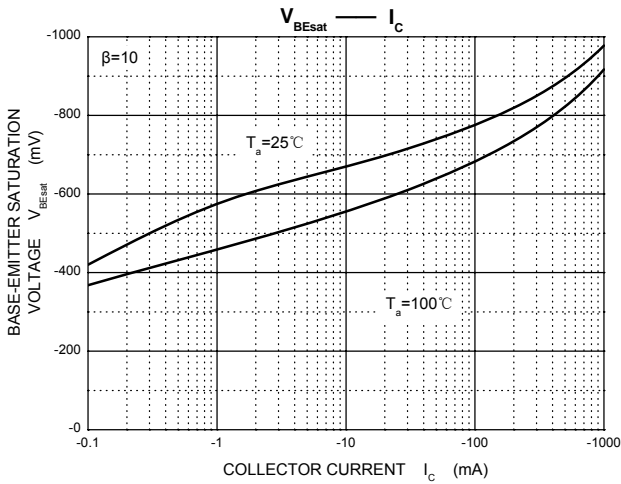
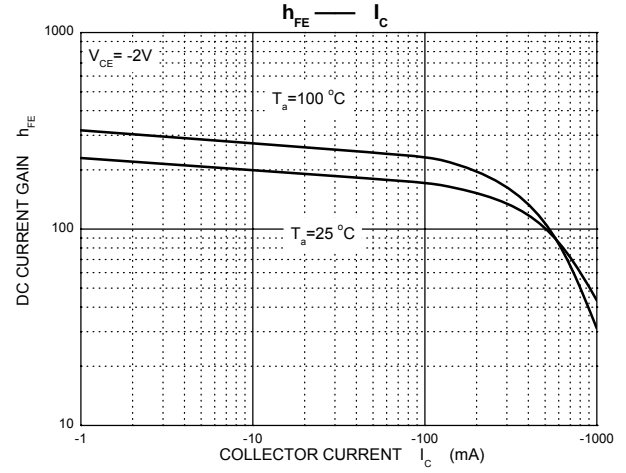
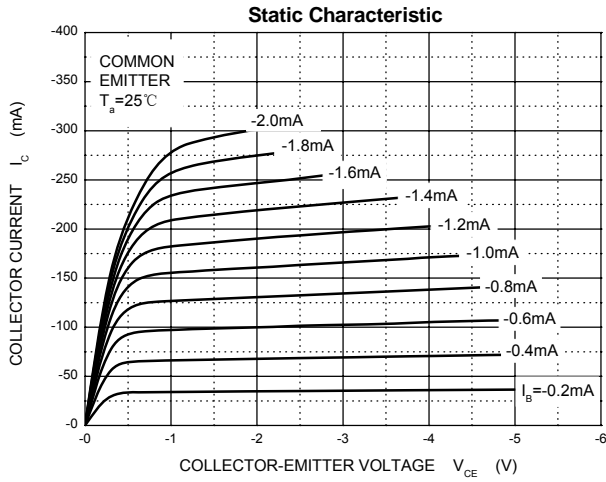
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit | |
|--------------------------------------|-----------------------|---|-------|------|------|------|---|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C =-100μA, I _E =0 | BCX51 | -45 | | | V |
| | | | BCX52 | -60 | | | |
| | | | BCX53 | -100 | | | |
| Collector-emitter breakdown voltage | V _{(BR)CEO*} | I _C =-10mA, I _B =0 | BCX51 | -45 | | | V |
| | | | BCX52 | -60 | | | |
| | | | BCX53 | -80 | | | |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =-100μA, I _C =0 | -5 | | | V | |
| Collector cut-off current | I _{CBO} | V _{CB} =-30V, I _E =0 | | | -0.1 | μA | |
| Emitter cut-off current | I _{EBO} | V _{EB} =-5V, I _C =0 | | | -0.1 | μA | |
| DC current gain | h _{FE(1)*} | V _{CE} =-2V, I _C =-5mA | 63 | | | | |
| | h _{FE(2)*} | V _{CE} =-2V, I _C =-150mA | 63 | | 250 | | |
| | h _{FE(3)*} | V _{CE} =-2V, I _C =-0.5A | 40 | | | | |
| Collector-emitter saturation voltage | V _{CE(sat)*} | I _C =-0.5A, I _B =-50mA | | | -0.5 | V | |
| Base-emitter voltage | V _{BE*} | V _{CE} =-2V, I _C =-0.5A | | | -1 | V | |
| Transition frequency | f _T | V _{CE} =-5V, I _C =-10mA, f=100MHz | | 50 | | MHz | |

* Pulse Test

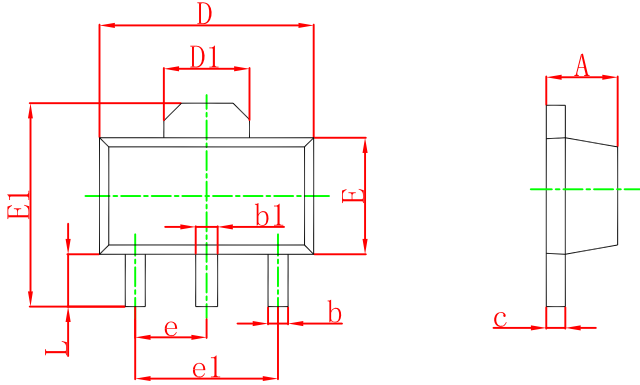
CLASSIFICATION OF h_{FE(2)}

| RANK | BCX51 BCX52 BCX53 | BCX51-10 BCX52-10 BCX53-10 | BCX51-16 BCX52-16 BCX53-16 |
|-------|-------------------------|----------------------------------|----------------------------------|
| RANGE | 63-250 | 63-160 | 100-250 |

Typical Characteristics

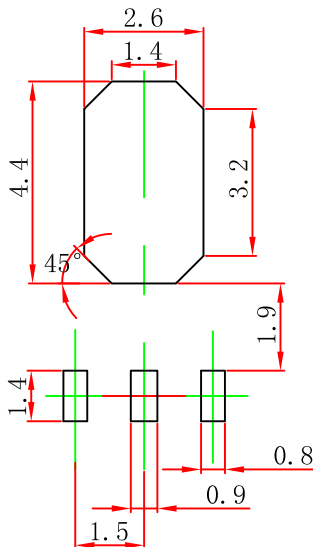


SOT-89 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 1.400 | 1.600 | 0.055 | 0.063 |
| b | 0.320 | 0.520 | 0.013 | 0.020 |
| b1 | 0.400 | 0.580 | 0.016 | 0.023 |
| c | 0.350 | 0.440 | 0.014 | 0.017 |
| D | 4.400 | 4.600 | 0.173 | 0.181 |
| D1 | 1.550 REF. | | 0.061 REF. | |
| E | 2.300 | 2.600 | 0.091 | 0.102 |
| E1 | 3.940 | 4.250 | 0.155 | 0.167 |
| e | 1.500 TYP. | | 0.060 TYP. | |
| e1 | 3.000 TYP. | | 0.118 TYP. | |
| L | 0.900 | 1.200 | 0.035 | 0.047 |

SOT-89 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

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