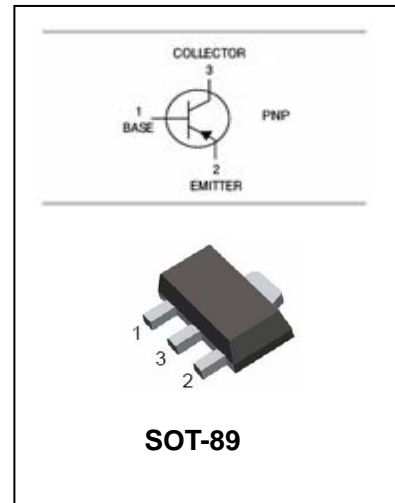


PNP Silicon Epitaxial Planar Transistor

2SB1386

FEATURES

- Low $V_{CE(sat)} = -0.35V$ (Typ.)
($I_C/I_B = -4A/-0.1A$).
- Excellent DC current gain characteristics.
- Complementary: 2SD2098.



APPLICATIONS

- Low frequency transistor.

ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|-------------|--------------|
| 2SB1386 | BHP/BHQ/BHR | SOT-89 |

MAXIMUM RATING @ $T_a = 25^\circ C$ unless otherwise specified

| Symbol | Parameter | Value | Units |
|----------------|----------------------------------|---------|------------|
| V_{CBO} | Collector-Base Voltage | -30 | V |
| V_{CEO} | Collector-Emitter Voltage | -20 | V |
| V_{EBO} | Emitter-Base Voltage | -6 | V |
| I_C | Collector Current | DC | -5 |
| | | Pulse | -10 |
| P_C | Collector Dissipation | 500 | mW |
| T_j, T_{stg} | Junction and Storage Temperature | -55~150 | $^\circ C$ |

PNP Silicon Epitaxial Planar Transistor

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|-------|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -50\mu A, I_E = 0$ | -30 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1.0mA, I_B = 0$ | -20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -50\mu A, I_C = 0$ | -6 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -20V, I_B = 0$ | | | -0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | | -0.5 | μA |
| DC current gain | h_{FE} | $V_{CE} = -2V, I_C = -500mA$ | 82 | | 390 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -4A, I_B = -0.1A$ | | -0.35 | -1.0 | V |
| Transition frequency | f_T | $V_{CE} = -6V, I_C = -50mA$ $f = 100MHz$ | | 120 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -20V, I_E = 0, f = 1MHz$ | | 60 | | pF |

CLASSIFICATION OF h_{FE}

| Rank | P | Q | R |
|---------|--------|---------|---------|
| Range | 82-180 | 120-270 | 180-390 |
| Marking | BHP | BHQ | BHR |

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

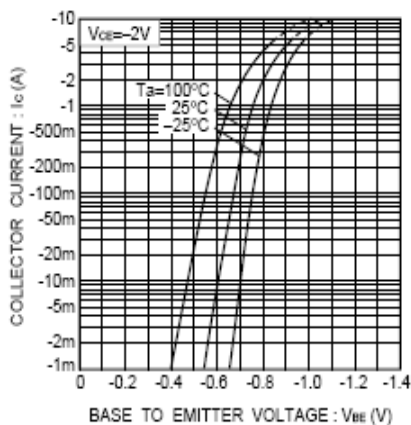


Fig.1 Grounded emitter propagation characteristics

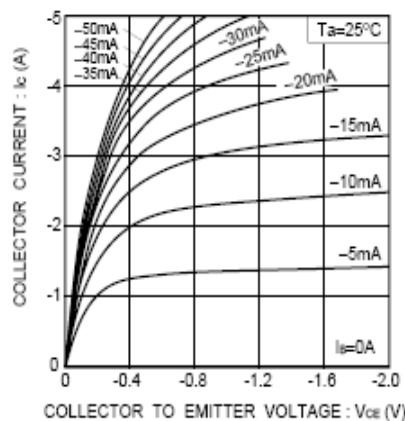


Fig.2 Grounded emitter output characteristics

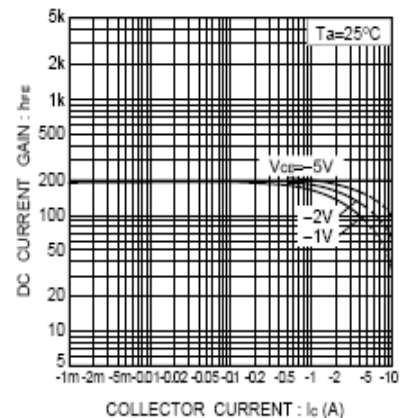


Fig.3 DC current gain vs. collector current (I)

PNP Silicon Epitaxial Planar Transistor

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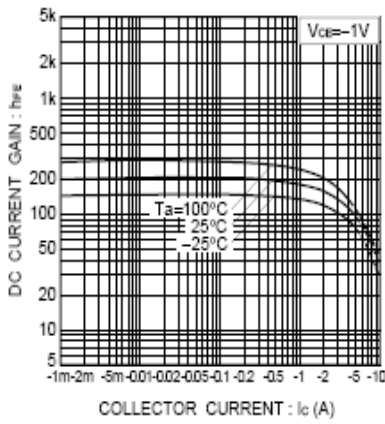


Fig.4 DC current gain vs. collector current (I)

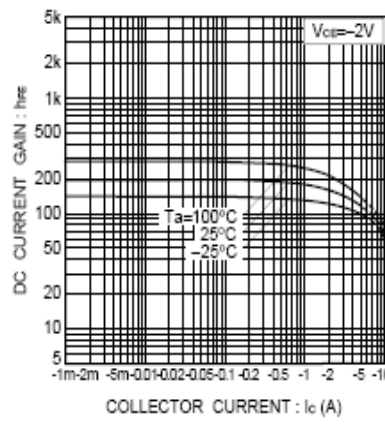


Fig.5 DC current gain vs. collector current (III)

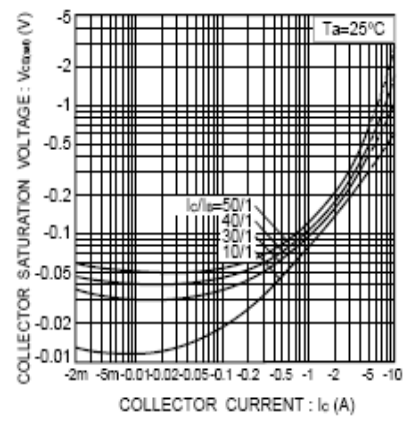


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

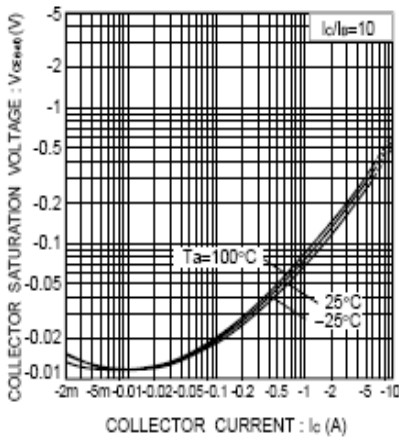


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

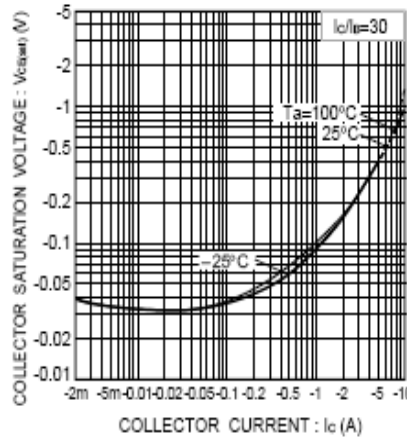


Fig.8 Collector-emitter saturation voltage vs. collector current (III)

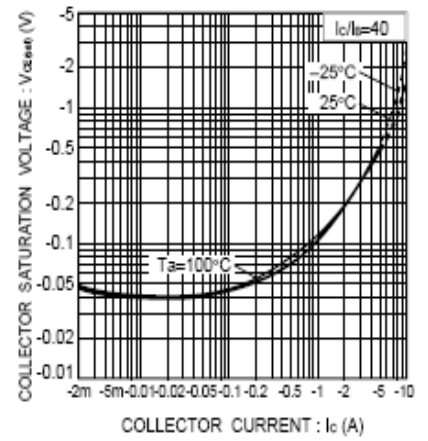


Fig.9 Collector-emitter saturation voltage vs. collector current (IV)

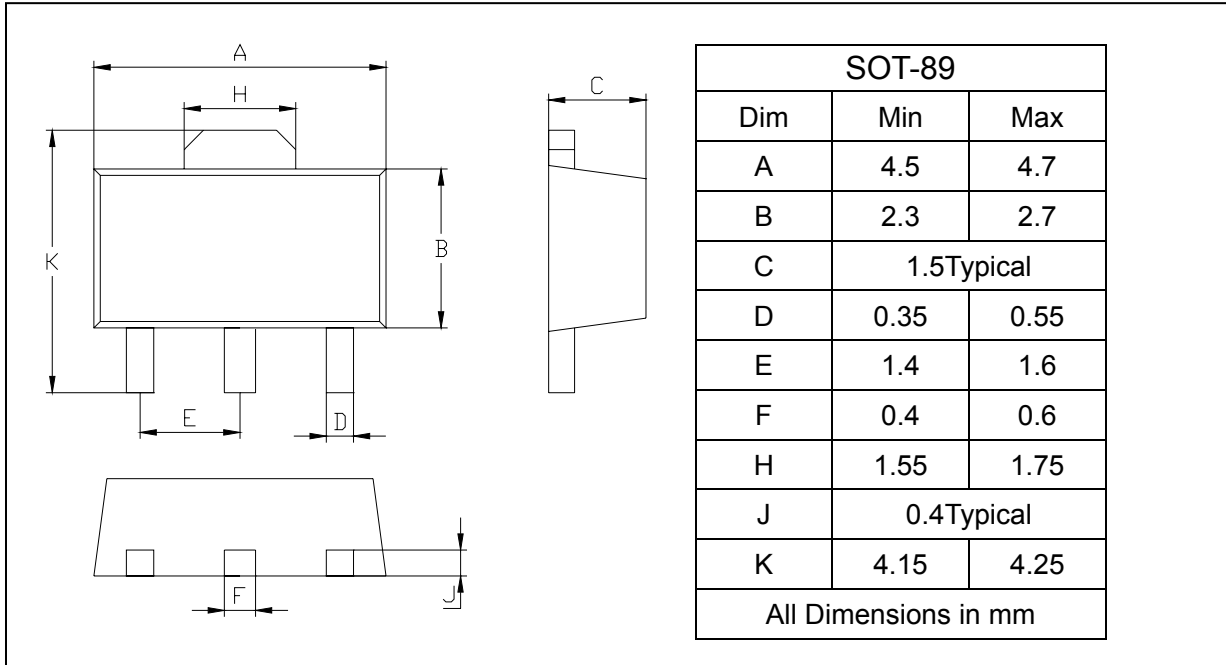
PNP Silicon Epitaxial Planar Transistor

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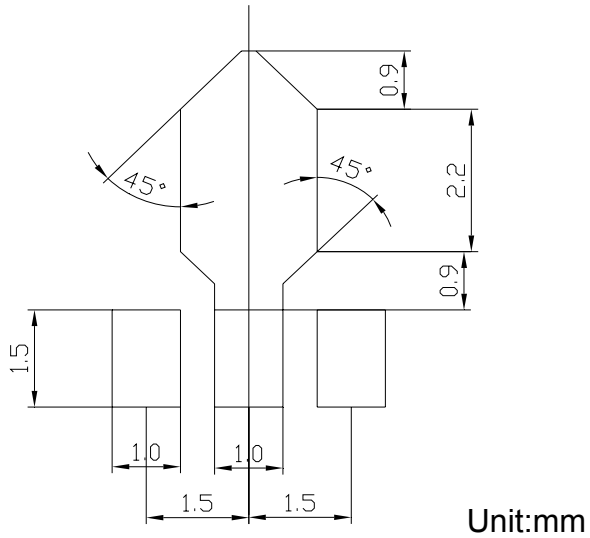
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|---------|---------|----------------|
| 2SB1386 | SOT-89 | 1000/Tape&Reel |