

PNP Silicon Epitaxial Planar Transistor

2SA1577

FEATURES

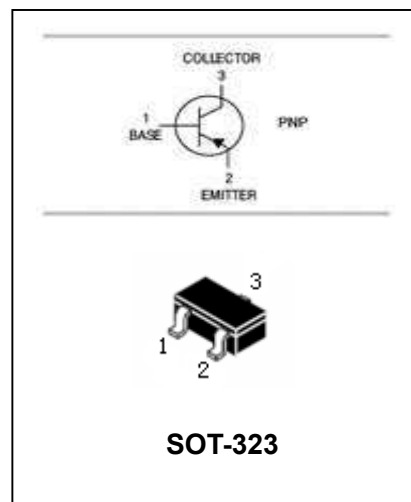
- Large I_c . $I_{cMAX}=-500mA$
- Low $V_{CE(sat)}$. Ideal for low-voltage operation.
- Complements the 2SC4097.



Lead-free

APPLICATIONS

- General purpose application.



ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|----------|--------------|
| 2SA1577 | HP/HQ/HR | SOT-323 |

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

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|-------------|-------------|
| V_{CBO} | Collector-Base Voltage | -40 | V |
| V_{CEO} | Collector-Emitter Voltage | -32 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_c | Collector Current -Continuous | -500 | mA |
| P_c | Collector Dissipation | 200 | mW |
| T_j | Junction Temperature | 150 | $^{\circ}C$ |
| T_{stg} | Storage Temperature | -55 to +150 | $^{\circ}C$ |

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--------------------------------------|-----|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-100\mu A, I_E=0$ | -40 | - | - | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=-1mA, I_B=0$ | -32 | - | - | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-100\mu A, I_C=0$ | -5 | - | - | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-20V, I_E=0$ | - | - | -1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-4V, I_C=0$ | - | - | -1 | μA |
| DC current gain | h_{FE} | $V_{CE}=-3V, I_C=-100mA$ | 82 | - | 390 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-300mA, I_B=-30mA$ | - | - | -0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=-300mA, I_B=-300mA$ | - | - | -1.1 | V |
| Transition frequency | f_T | $V_{CE}=-5V, I_E=20mA$ $f=100MHz$ | - | 200 | - | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=-10V, I_E=0, f=1MHz$ | - | 7 | - | pF |

CLASSIFICATION OF h_{FE}

| Rank | P | Q | R |
|---------|--------|---------|---------|
| Range | 82-120 | 120-270 | 180-390 |
| marking | HP | HQ | HR |

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

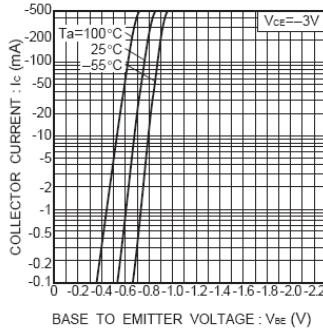


Fig.1 Grounded emitter propagation

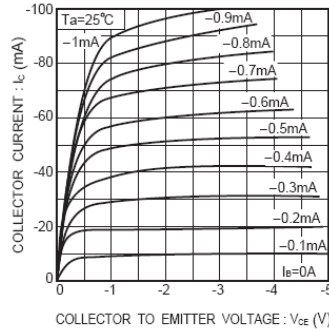


Fig.2 Grounded emitter output characteristics (I)

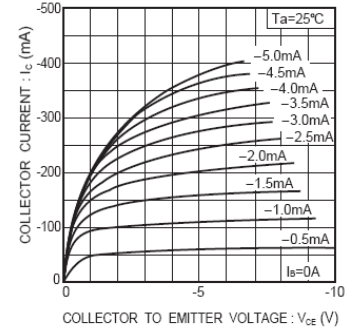


Fig.3 Ground emitter output characteristics (II)

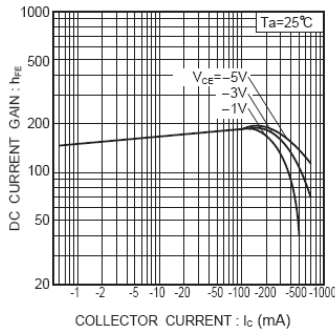


Fig.4 DC current gain vs. collector current (I)

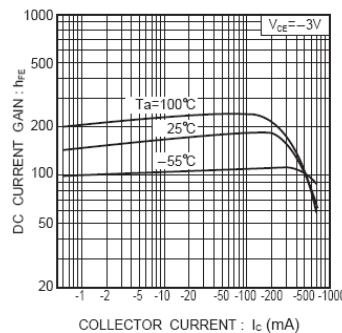


Fig.5 DC current gain vs. collector current (II)

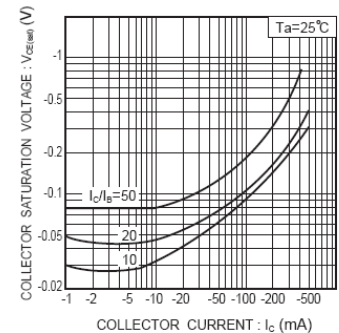


Fig.6 Collector emitter saturation voltage vs. collector current (I)

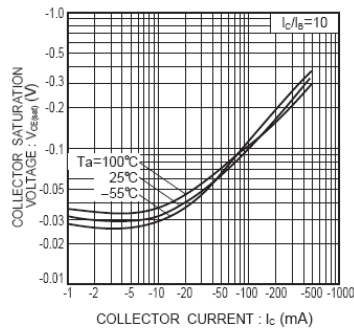


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

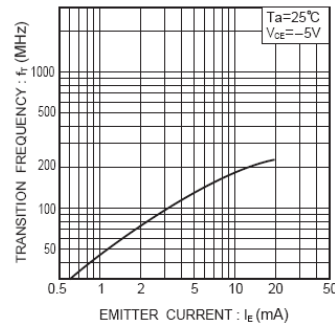


Fig.8 Gain bandwidth product vs. emitter current

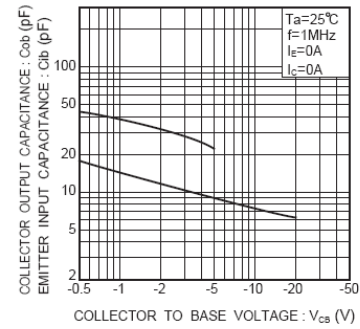


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input

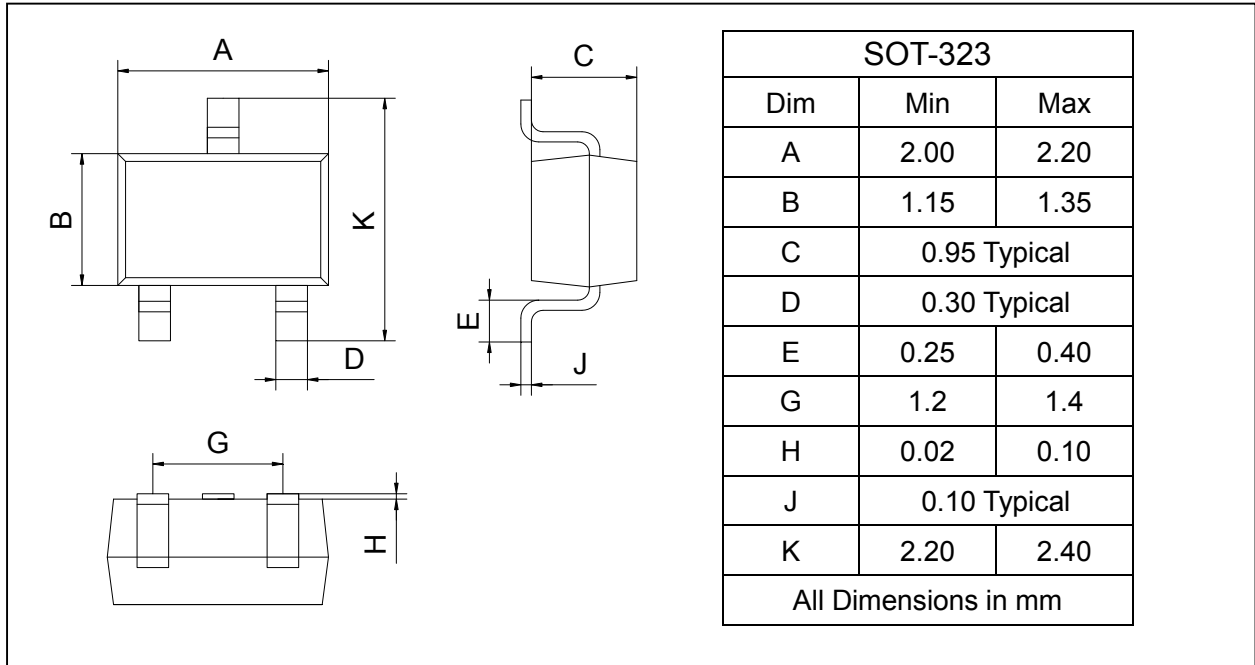
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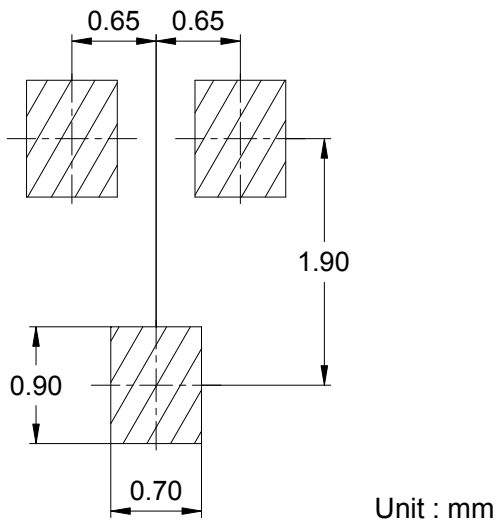
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

| Device | Package | Shipping |
|---------|---------|----------------|
| 2SA1577 | SOT-323 | 3000/Tape&Reel |