

Medium Power Transistor (-32V, -0.5A)

2SA1577

●Features

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

●Structure

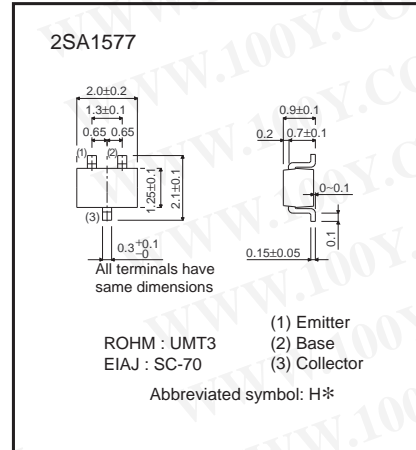
Epitaxial planer type
PNP silicon transistor

●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|-------------|------|
| Collector-base voltage | V_{CBO} | -40 | V |
| Collector-emitter voltage | V_{CEO} | -32 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_c | -0.5 | A * |
| Collector power dissipation | P_c | 0.2 | W |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

* P_c MAX. must not be exceeded.

●Dimensions (Unit : mm)



* Denotes h_{FE}

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●Electrical characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|------|---------|--|
| Collector-base breakdown voltage | BV_{CBO} | -40 | - | - | V | $I_c = -100\mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | -32 | - | - | V | $I_c = -1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | -5 | - | - | V | $I_E = -100\mu A$ |
| Collector cutoff current | I_{CBO} | - | - | -1 | μA | $V_{CB} = -20V$ |
| Emitter cutoff current | I_{EBO} | - | - | -1 | μA | $V_{EB} = -4V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | - | -0.6 | V | $I_c/I_B = -300mA/-30mA$ |
| DC current transfer ratio | h_{FE} | 120 | - | 390 | - | $V_{CE} = -3V, I_c = -100mA$ |
| Transition frequency | f_T | - | 200 | - | MHz | $V_{CE} = -5V, I_E = 20mA, f = 100MHz$ |
| Output capacitance | C_{ob} | - | 7 | - | pF | $V_{CB} = -10V, I_E = 0A, f = 1MHz$ |

●Packaging specifications

| Type | h_{FE} | Package | Taping |
|---------|----------|------------------------------|--------|
| 2SA1577 | QR | Code | T106 |
| | | Basic ordering unit (pieces) | 3000 |
| | | | ○ |

h_{FE} values are classified as follows.

| Item | Q | R |
|----------|------------|------------|
| h_{FE} | 120 to 270 | 180 to 390 |

●Electrical characteristic curves

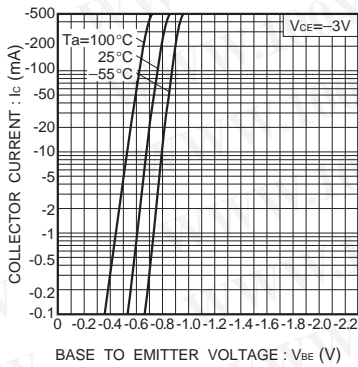


Fig.1 Grounded emitter propagation

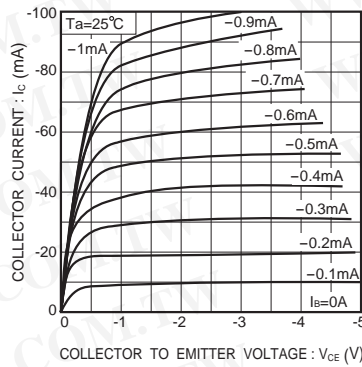


Fig.2 Grounded emitter output characteristics (I)

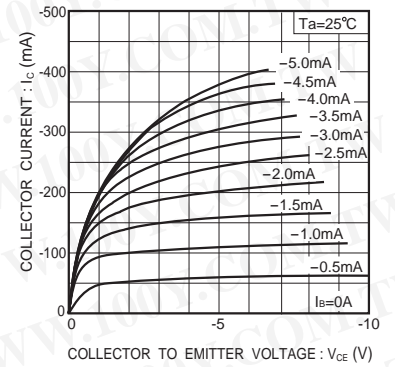


Fig.3 Ground emitter output characteristics (II)

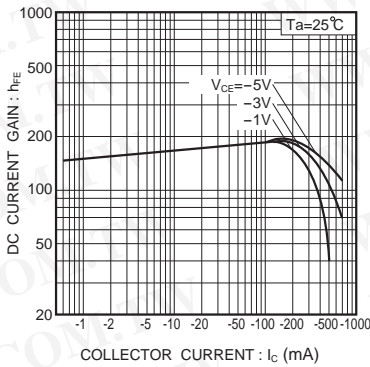


Fig.4 DC current gain vs. collector current (I)

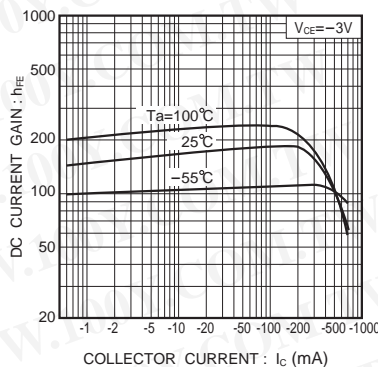


Fig.5 DC current gain vs. collector current (II)

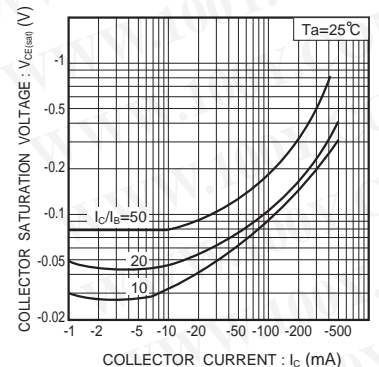


Fig.6 Collector emitter saturation voltage vs. collector current (I)

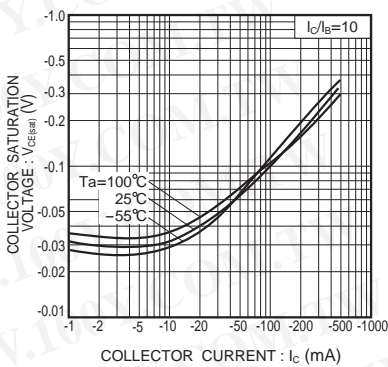


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

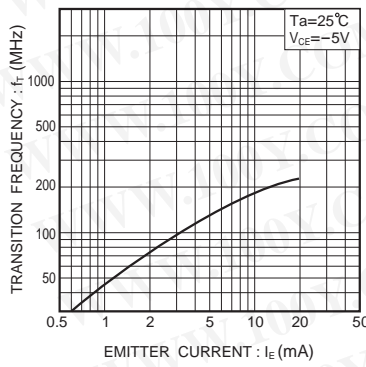


Fig.8 Gain bandwidth product vs. emitter current

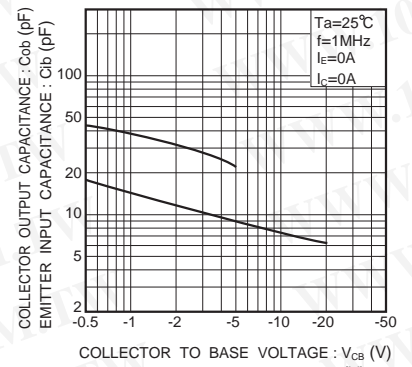


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter -base voltage

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