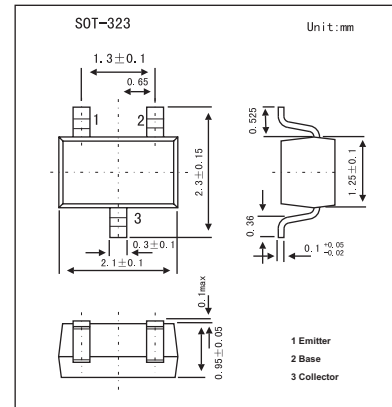


## Medium Power Transistor

### 2SA1577

#### ■ Features

- Large  $I_{c, I_{cMAX}} = -500\text{mA}$
- Low  $V_{CE(sat)}$ . Ideal for low-voltage operation.



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                   | Symbol    | Rating      | Unit             |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage      | $V_{CB0}$ | -40         | V                |
| Collector-emitter voltage   | $V_{CEO}$ | -32         | V                |
| Emitter-base voltage        | $V_{EB0}$ | -5          | V                |
| Collector current           | $I_c$     | -0.5        | A                |
| Collector power dissipation | $P_c$     | 0.2         | W                |
| Junction temperature        | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter                            | Symbol        | Testconditions  | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|---|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $BV_{CB0}$    | $I_c = -100\mu\text{A}$                                     | -40 |     |      | V             |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | $I_c = -1\text{mA}$   | -32 |     |      | V             |
| Emitter-base breakdown voltage       | $BV_{EB0}$    | $I_E = -100\mu\text{A}$                                     | -5  |     |      | V             |
| Collector cutoff current             | $I_{CBO}$     | $V_{CB} = -20\text{V}$                                      |     |     | -1   | $\mu\text{A}$ |
| Emitter cutoff current               | $I_{EBO}$     | $V_{EB} = -4\text{V}$                                       |     |     | -1   | $\mu\text{A}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $V_{CE} = -3\text{V}, I_c = -100\text{mA}$                  |     |     | -0.6 | V             |
| DC current transfer ratio            | $h_{FE}$      | $I_c/I_B = -300\text{mA}/-30\text{mA}$                      | 82  |     | 390  |               |
| Transition frequency                 | $f_r$         | $V_{CE} = -5\text{V}, I_E = 20\text{mA}, f = 100\text{MHz}$ |     | 200 |      | MHz           |
| Output capacitance                   | $C_{ob}$      | $V_{CB} = -10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$    |     | 7   |      | pF            |

#### ■ $h_{FE}$ Classification

| Marking  | HP     | HQ      | HR      |
|----------|--------|---------|---------|
| $h_{FE}$ | 82~180 | 120~270 | 180~390 |