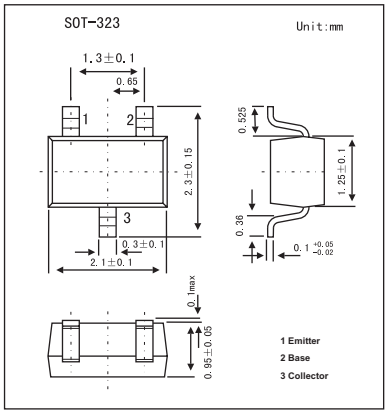
# Silicon NPN Epitaxial Planar Type

# 2SD1979



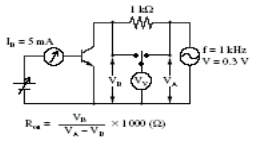

## Features

- Low on resistance ron.
- High forward current transfer ratio hFE.

## Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 50 | V |
| Collector-emitter voltage | $V_{CEO}$ | 20 | V |
| Emitter-base voltage | $V_{EBO}$ | 25 | V |
| Collector current | $I_C$ | 300 | mA |
| Peak collector current | $I_{CP}$ | 500 | mA |
| Collector power dissipation | $P_C$ | 150 | mW |
| Junction temperature | $T_j$ | 150 | ℃ |
| Storage temperature | $T_{stg}$ | -55 to +150 | ℃ |

## Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-emitter voltage | $V_{CEO}$ | $I_C$ = 1 mA, $I_B$ = 0 | 20 | | | V |
| Base-emitter voltage | $V_{BE}$ | $V_{CE}$ = 2 V, $I_C$ = 4 mA | | 0.6 | | V |
| Collector-base cutoff current | $I_{CBO}$ | $V_{CB}$ = 50 V, $I_E$ = 0 | | | 1 | μA |
| Collector-emitter cutoff current | $I_{CEO}$ | $V_{EB}$ = 25 V, $I_C$ = 0 | | | 1 | μA |
| Forward current transfer ratio | $h_{FE}$ | $V_{CE}$ = 2 V, $I_C$ = 4 mA | 500 | | 2500 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$ = 30 mA, $I_B$ = 3 mA | | | 0.1 | V |
| Transition frequency | $f_T$ | $V_{CB}$ = 6 V, $I_E$ = -4 mA, f = 200 MHz | | 80 | | MHz |
| Collector output capacitance | Cob | $V_{CB}$ = 10 V, $I_E$ = 0, f = 1 MHz | | 4.5 | | pF |
| ON resistance | $R_{on}$ |  | | 1 | | Ω |



## $h_{FE}$ Classification

| Marking | 3W | |
|---|---|---|
| Rank | S | T |
| $h_{FE}$ | 500～1500 | 800～2500 |