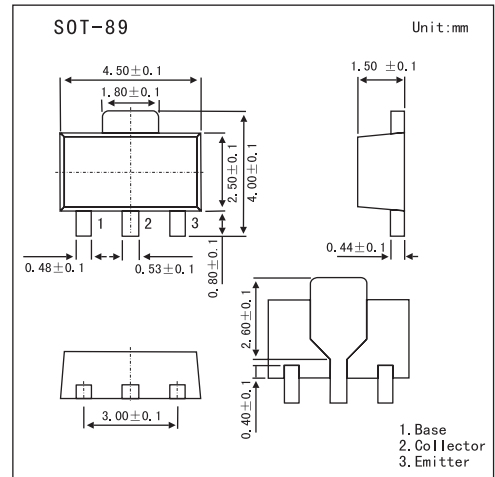


# 2SD1963

■ Features

- Low saturation voltage.
- Excellent DC current gain characteristics.



■ Absolute Maximum Ratings Ta = 25°C

| Parameter                   | Symbol           | Rating      | Unit |
|-----------------------------|------------------|-------------|------|
| Collector-base voltage      | V <sub>CB0</sub> | 50          | V    |
| Collector-emitter voltage   | V <sub>CEO</sub> | 20          | V    |
| Emitter-base voltage        | V <sub>EBO</sub> | 6           | V    |
| Collector current           | I <sub>c</sub>   | 3           | A    |
| Collector power dissipation | P <sub>c</sub>   | 0.5         | W    |
| Junction temperature        | T <sub>j</sub>   | 150         | °C   |
| Storage temperature         | T <sub>stg</sub> | -55 to +150 | °C   |

■ Electrical Characteristics Ta = 25°C

| Parameter                            | Symbol               | Testconditons                                         | Min | Typ  | Max  | Unit |
|--------------------------------------|----------------------|-------------------------------------------------------|-----|------|------|------|
| Collector-base breakdown voltage     | BV <sub>CB0</sub>    | I <sub>c</sub> =50μA                                  | 50  |      |      | V    |
| Collector-emitter breakdown voltage  | BV <sub>CEO</sub>    | I <sub>c</sub> =1mA                                   | 20  |      |      | V    |
| Emitter-base breakdown voltage       | BV <sub>EBO</sub>    | I <sub>E</sub> =50μA                                  | 6   |      |      | V    |
| Collector cutoff current             | I <sub>cBO</sub>     | V <sub>CB</sub> =40V                                  |     |      | 0.5  | μA   |
| Emitter cutoff current               | I <sub>EBO</sub>     | V <sub>EB</sub> =5V                                   |     |      | 0.5  | μA   |
| DC current transfer ratio            | h <sub>FE</sub>      | V <sub>CE</sub> =2V, I <sub>c</sub> =0.5A             | 180 |      | 560  |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>c</sub> =1.5 A, I <sub>B</sub> =0.15A          |     | 0.25 | 0.45 | V    |
| Output capacitance                   | f <sub>T</sub>       | V <sub>CE</sub> =6V, I <sub>E</sub> = -50mA, f=100MHz |     | 150  |      | MHz  |
| Transition frequency                 | C <sub>ob</sub>      | V <sub>CB</sub> =20V, I <sub>E</sub> =0A, f=1MHz      |     | 35   |      | pF   |

■ hFE Classification

| Marking | DG      |         |
|---------|---------|---------|
| Rank    | R       | S       |
| hFE     | 180~390 | 270~560 |