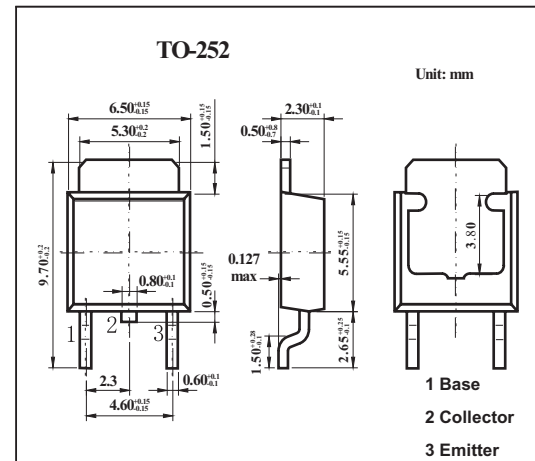


## Silicon NPN Epitaxial Transistor

## 2SD1033



### ■ Features

- High Voltage  $V_{CE0}=150V$

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

| Parameter   | Symbol    | Rating      | Unit       |
|---|-----------|-------------|------------|
| Collector to base voltage                         | $V_{CB0}$ | 200         | V          |
| Collector to emitter voltage                      | $V_{CE0}$ | 150         | V          |
| Emitter to base voltage                           | $V_{EB0}$ | 5           | V          |
| Peak collector current *1                         | $I_{CP}$  | 3           | A          |
| Collector current                                 | $I_C$     | 2           | A          |
| Collector power dissipation $T_a = 25^\circ C$ *2 | $P_T$     | 2           | W          |
| Junction temperature                              | $T_j$     | 150         | $^\circ C$ |
| Storage temperature                               | $T_{stg}$ | -55 to +150 | $^\circ C$ |

\*  $PW \leq 10ms, Duty\ Cycle \leq 50\%$

\*2 when mounted on ceramic substrate of  $7.5cm^2 \times 0.7mm$

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

| Parameter                      | Symbol        | Testconditions            | Min | Typ | Max | Unit    |
|--------------------------------|---------------|---------------------------|-----|-----|-----|---------|
| Collector cutoff current       | $I_{CBO}$     | $V_{CB} = 150V, I_E = 0$  |     |     | 50  | $\mu A$ |
| Emitter cutoff current         | $I_{EBO}$     | $V_{EB} = 4V, I_C = 0$    |     |     | 50  | $\mu A$ |
| DC Current Gain *              | $h_{FE}$      | $V_{CE}=10V, I_C=0.4A$    | 40  | 100 | 200 |         |
| Collector saturation voltage * | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 0.4A$ |     | 0.2 | 1.0 | V       |
| Gain saturation Voltage        | $f_T$         | $V_{CE}=10V, I_E=0.4A$    |     | 10  |     | MHZ     |

\*  $PW \leq 350\mu s, Duty\ cycle \leq 2\%$

### ■ hFE Classification

| Marking | M        | L         | K          |
|---------|----------|-----------|------------|
| hFE     | 40 to 80 | 60 to 120 | 100 to 200 |