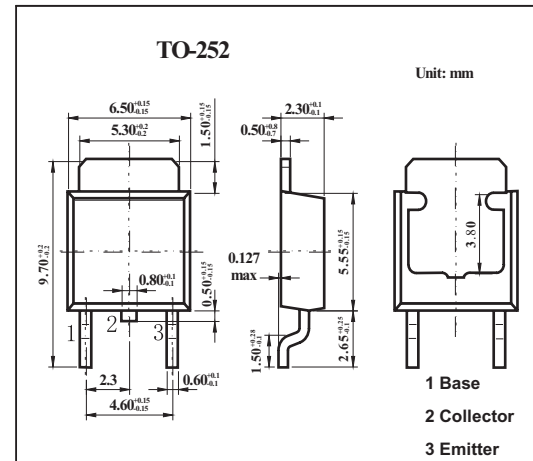


NPN Silicon Epitaxial Transistor

2SC2946

■ Features

- High Voltage $V_{CE0}=200V$
- High speed $t_f < \mu s$

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

| Parameter | Symbol | Rating | Unit |
|---|-----------|-------------|------------|
| Collector to base voltage | V_{CBO} | 330 | V |
| Collector to emitter voltage | V_{CEO} | 200 | V |
| Emitter to base voltage | V_{EBO} | 7 | V |
| Collector current | I_{CP} | 2 | A |
| Collector peak current *1 | I_C | 4 | A |
| Total 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 | $^\circ C$ |

*1 $PW \leq 10ms$, Duty cycle $\leq 50\%$

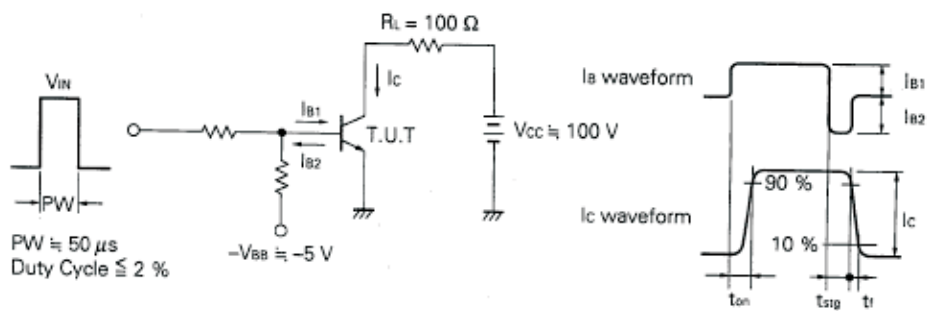
*2 when mounted on ceramic substrate of $7.5cm^2 \times 0.7mm$

2SC2946

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

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--------------------------------|---------------|--------------------------------------|-----|-----|-----|---------------|
| collector cutoff current | I_{CBO} | $V_{CB}=250\text{V}, I_E=0$ | | | 1 | μA |
| emitter cutoff current | I_{EBO} | $V_{EB}=5\text{V}, I_C=0$ | | | 1 | μA |
| DC current Gain * | h_{FE} | $V_{CE}=5\text{V}, I_C=100\text{mA}$ | 20 | 60 | 160 | |
| | | $V_{CE}=5\text{V}, I_C=1\text{A}$ | 15 | | | |
| Collector Saturation Voltage * | $V_{CE(sat)}$ | $I_C=1\text{A}, I_B=0.1\text{A}$ | | | 1 | V |
| Base Saturation Voltage * | $V_{BE(sat)}$ | $I_C=1\text{A}, I_B=0.1\text{A}$ | | | 1.5 | V |
| Turn-on Time | t_{on} | see Test circuit | | | 1 | μs |
| Storage Time | t_{stg} | | | | 2 | |
| Fall Time | t_f | | | | 1 | |

* Pulsed: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

■ Switching Time(t_{on}, t_{stg}, t_f) Test Circuit■ h_{FE} Classification

| Marking | N | M | L | K |
|----------|----------|----------|-----------|-----------|
| h_{FE} | 20 to 50 | 30 to 70 | 50 to 100 | 80 to 160 |