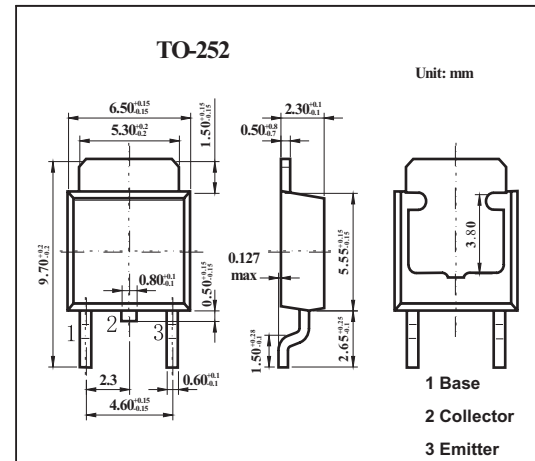


Silicon NPN Triple Diffusion Junction Type

2SD1251,2SD1251A

■ Features

- Wide area of safe operation.

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

| Parameter | | Symbol | Rating | Unit |
|-----------------------------|--------------------------|-----------|-------------|------------------|
| Collector-base voltage | 2SD1251 | V_{CBO} | 60 | V |
| | 2SD1251A | | 80 | V |
| Collector-emitter voltage | 2SD1251 | V_{CEO} | 60 | V |
| | 2SD1251A | | 80 | V |
| Emitter-base voltage | | V_{EBO} | 8 | V |
| Collector current | | I_C | 4 | A |
| Peak collector current | | I_{CP} | 6 | A |
| Base current | | I_B | 1 | A |
| Collector power dissipation | $T_a = 25^\circ\text{C}$ | P_C | 1.3 | W |
| | $T_c = 25^\circ\text{C}$ | | 30 | W |
| Junction temperature | | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

2SD1251,2SD1251A

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-base cutoff current | ICBO | V _{CB} = 20 V, I _E = 0 | | | 30 | μA |
| Emitter-base cutoff current | IEBO | V _{EB} = 8 V, I _C = 0 | | | 1 | mA |
| Collector to emitter voltage | 2SD1251 | V _{CEO(sus)} I _C = 0.25 A, L = 25 mH | 60 | | | |
| | 2SD1251A | | 80 | | | |
| Forward current transfer ratio | h _{FE} | V _{CE} = 3 V, I _C = 1 A | 30 | | 160 | |
| Forward current transfer ratio | | V _{CE} = 3 V, I _C = 0.1 A | 40 | | | |
| Base-emitter voltage | V _{BE} | V _{CE} = 3 V, I _C = 1 A | | | 1.2 | V |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C = 2 A, I _B = 0.4 A | | | 1 | V |
| Transition frequency | f _T | V _{CE} = 10 V, I _C = 0.2 A, f = 0.5 MHz | | 1 | | MHz |

■ hFE Classification

| Rank | Q | P | O |
|------|-------|--------|--------|
| hFE | 30~60 | 50~100 | 80~160 |