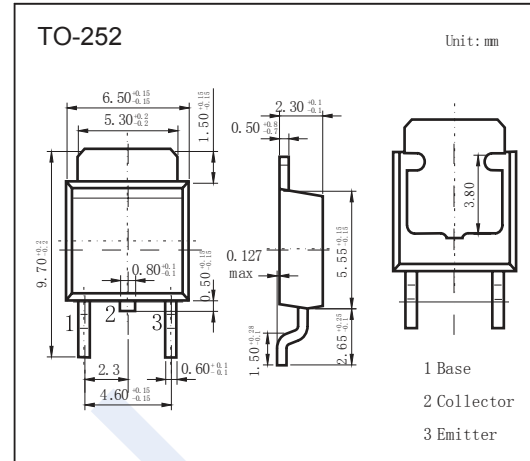


## NPN Transistors

### 2SD1250

#### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- Complementary to 2SB928



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

| Parameter                      | Symbol    | Rating                   | Unit             |   |
|--------------------------------|-----------|--------------------------|------------------|---|
| Collector - Base Voltage       | $V_{CBO}$ | 200                      | V                |   |
| Collector - Emitter Voltage    | $V_{CEO}$ | 150                      |                  |   |
| Emitter - Base Voltage         | $V_{EBO}$ | 6                        |                  |   |
| Collector Current - Continuous | $I_C$     | 2                        | A                |   |
| Collector Current - Pulse      | $I_{CP}$  | 3                        |                  |   |
| Collector Power Dissipation    | $P_C$     | $T_c = 25^\circ\text{C}$ | 30               | W |
|                                |           | $T_a = 25^\circ\text{C}$ | 1.3              |   |
| Junction Temperature           | $T_J$     | 150                      | $^\circ\text{C}$ |   |
| Storage Temperature Range      | $T_{stg}$ | -55 to 150               |                  |   |

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

| Parameter                            | Symbol        | Test Conditions  | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector- base breakdown voltage    | $V_{CBO}$     | $I_C = 500 \mu\text{A}, I_E = 0$                                 | 200 |     |     | V             |
| Collector- emitter breakdown voltage | $V_{CEO}$     | $I_C = 5 \text{ mA}, I_B = 0$                                    | 150 |     |     |               |
| Emitter - base breakdown voltage     | $V_{EBO}$     | $I_E = 500 \mu\text{A}, I_C = 0$                                 | 6   |     |     |               |
| Collector-base cut-off current       | $I_{CBO}$     | $V_{CB} = 200 \text{ V}, I_E = 0$                                |     |     | 50  | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5 \text{ V}, I_C = 0$                                  |     |     | 50  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$                      |     |     | 1   | V             |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$                      |     |     | 1.2 |               |
| Base - emitter voltage               | $V_{BE}$      | $V_{CE} = 10 \text{ V}, I_C = 400 \text{ mA}$                    |     |     | 1   |               |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE} = 10 \text{ V}, I_C = 150 \text{ mA}$                    | 60  |     | 240 |               |
|                                      | $h_{FE(2)}$   | $V_{CE} = 10 \text{ V}, I_C = 400 \text{ mA}$                    | 50  |     |     |               |
| Transition frequency                 | $f_T$         | $V_{CE} = 10 \text{ V}, I_C = 500 \text{ mA}, f = 1 \text{ MHz}$ |     | 20  |     | MHz           |

#### ■ Classification of $h_{FE(1)}$

| Type  | 2SD1250-Q | 2SD1250-P |
|-------|-----------|-----------|
| Range | 60-140    | 100-240   |

## NPN Transistors 2SD1250

■ Typical Characteristics

