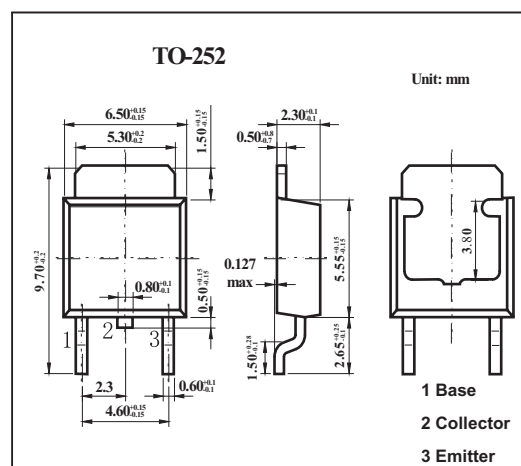


## High-current gain Power Transistor

## 2SD2318

## ■ Features

- High DC current gain.
- Low saturation voltage.

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

| Parameter                                               | Symbol    | Rating      | Unit             |
|---------------------------------------------------------|-----------|-------------|------------------|
| Collector-base voltage                                  | $V_{CBO}$ | 80          | V                |
| Collector-emitter voltage                               | $V_{CEO}$ | 60          | V                |
| Emitter-base voltage                                    | $V_{EBO}$ | 6           | V                |
| Collector current                                       | $I_C$     | 3           | A                |
|                                                         |           | 4.5         | A(Pulse)*        |
| Collector current (pulse) *                             | $I_{CP}$  | 4.5         | A                |
| Collector power dissipation<br>$T_c = 25^\circ\text{C}$ | $P_C$     | 1           | W                |
|                                                         |           | 15          | W                |
| Junction temperature                                    | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                                     | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

\*  $P_w=100\text{ms}$ .■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

| Parameter                            | Symbol        | Testconditions                                             | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|------------------------------------------------------------|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | $I_C=50\mu\text{A}$                                        | 80  |     |      | V             |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | $I_C=1\text{mA}$                                           | 60  |     |      | V             |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | $I_E=50\mu\text{A}$                                        | 6   |     |      | V             |
| Collector cutoff current             | $I_{CBO}$     | $V_{CB}=80\text{V}$                                        |     |     | 100  | $\mu\text{A}$ |
| Emitter cutoff current               | $I_{EBO}$     | $V_{EB}=6\text{V}$                                         |     |     | 100  | $\mu\text{A}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=2\text{A}$ , $I_B=0.05\text{A}$                       |     |     | 1.0  | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=2\text{A}$ , $I_B=0.05\text{A}$                       |     |     | 1.5  | V             |
| DC current transfer ratio            | $h_{FE}$      | $V_{CE}=4\text{V}$ , $I_C=0.5\text{A}$                     | 560 |     | 1800 |               |
| Output capacitance                   | $f_T$         | $V_{CE}=5\text{V}$ , $I_E=-0.2\text{A}$ , $f=10\text{MHz}$ |     | 50  |      | MHz           |
| Transition frequency                 | $C_{ob}$      | $V_{CB}=10\text{V}$ , $I_E=0\text{A}$ , $f=1\text{MHz}$    |     | 60  |      | pF            |

■  $h_{FE}$  Classification

| Rank     | U        | V        |
|----------|----------|----------|
| $h_{FE}$ | 560~1200 | 820~1800 |