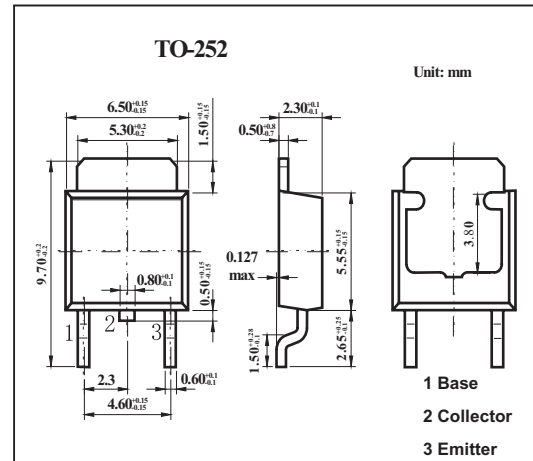


Low  $V_{CE(sat)}$  Transistor

## 2SD2118



## ■ Features

- Low  $V_{CE(sat)}$ .
- Excellent DC current gain characteristics.
- NPN silicon transistor.

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

| Parameter                   | Symbol    | Rating      | Unit             |
|-----------------------------|-----------|-------------|------------------|
| Collector-base voltage      | $V_{CBO}$ | 50          | V                |
| Collector-emitter voltage   | $V_{CEO}$ | 20          | V                |
| Emitter-base voltage        | $V_{EBO}$ | 6           | V                |
| Collector current           | $I_c$     | 5           | A (DC)           |
|                             |           | 10          | A(Pulse)*        |
| Collector current (pulse) * | $I_{cP}$  | 10          | A                |
| Collector power dissipation | $P_c$     | 1           | W                |
|                             |           | 10          | W                |
| $T_c = 25^\circ\text{C}$    |           |             |                  |
| Junction temperature        | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature         | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

\*  $P_w=10\text{ms}$ .

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

| Parameter                            | Symbol        | Testconditions  | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | $I_c=50\mu\text{A}$                                   | 50  |     |     | V             |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | $I_c=1\text{mA}$                                      | 20  |     |     | V             |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | $I_E=50\mu\text{A}$                                   | 6   |     |     | V             |
| Collector cutoff current             | $I_{CBO}$     | $V_{CB}=40\text{V}$                                   |     |     | 0.5 | $\mu\text{A}$ |
| Emitter cutoff current               | $I_{EBO}$     | $V_{EB}=5\text{V}$                                    |     |     | 0.5 | $\mu\text{A}$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c=4\text{A}, I_b=0.1\text{A}$                      |     | 0.3 | 1.0 | V             |
| DC current transfer ratio            | $h_{FE}$      | $V_{CE}=2\text{V}, I_c=0.5\text{A}$                   | 120 |     | 390 |               |
| Output capacitance                   | $f_t$         | $V_{CE}=6\text{V}, I_E=-50\text{mA}, f=100\text{MHz}$ |     | 150 |     | MHz           |
| Transition frequency                 | $C_{ob}$      | $V_{CB}=20\text{V}, I_E=0\text{A}, f=1\text{MHz}$     |     | 30  |     | pF            |

■  $h_{FE}$  Classification

| Rank     | Q       | R       |
|----------|---------|---------|
| $h_{FE}$ | 120~270 | 180~390 |