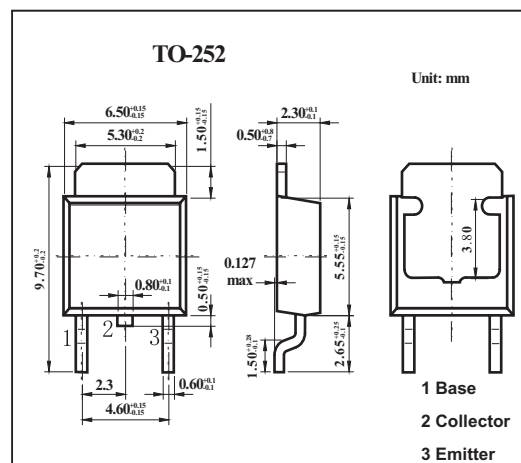


## NPN Silicon Epitaxia

## 2SC3518-Z

## ■ Features

- Low  $V_{CE(sat)}$ .
- Fast switching speed.
- High DC current gain.

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

| Parameter                    | Symbol    | Rating      | Unit             |
|------------------------------|-----------|-------------|------------------|
| Collector-base voltage       | $V_{CBO}$ | 60          | V                |
| Collector-emitter voltage    | $V_{CEO}$ | 60          | V                |
| Emitter-base voltage         | $V_{EBO}$ | 7           | V                |
| Collector current            | $I_C$     | 5           | A                |
| Collector current (pulse) *1 | $I_{CP}$  | 7           | A                |
| Total power dissipation *2   | $P_T$     | 2           | W                |
| Junction temperature         | $T_J$     | 150         | $^\circ\text{C}$ |
| Storage temperature          | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

\*1  $PW \leq 10 \text{ ms}$ , duty cycle  $\leq 50\%$

\*2 When mounted on ceramic substrate of  $7.5\text{cm}^2 \times 0.7\text{mm}$

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

| Parameter                              | Symbol        | Testconditions                               | Min | Typ  | Max | Unit          |
|----------------------------------------|---------------|----------------------------------------------|-----|------|-----|---------------|
| Collector cutoff current               | $I_{CBO}$     | $V_{CB} = 50\text{V}$ , $I_E = 0$            |     |      | 10  | $\mu\text{A}$ |
| Emitter cutoff current                 | $I_{EBO}$     | $V_{EB} = 7\text{V}$ , $I_C = 0$             |     |      | 10  | $\mu\text{A}$ |
| DC current gain *                      | $h_{FE}$      | $V_{CE} = 1\text{V}$ , $I_C = 2\text{A}$     | 100 |      | 400 | V             |
|                                        |               | $V_{CE} = 1\text{V}$ , $I_C = 5\text{A}$     | 50  |      |     |               |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C = 2\text{A}$ , $I_B = 0.2\text{A}$      |     |      | 0.3 | V             |
| Base-emitter saturation voltage *      | $V_{BE(sat)}$ | $I_C = 2\text{A}$ , $I_B = 0.2\text{A}$      |     |      | 1.2 | V             |
| Gain bandwidth product                 | $f_T$         | $V_{CE} = 10\text{V}$ , $I_E = 500\text{mA}$ |     | 120  |     | MHz           |
| Turn-on time                           | $t_{on}$      | $V_{CC} = 10\text{V}$ , $R_L = 5\Omega$      |     | 0.07 | 1   | $\mu\text{s}$ |
| Storage time                           | $t_{stg}$     | $I_C = 2\text{A}$ ,                          |     | 0.8  | 2.5 | $\mu\text{s}$ |
| Turn-off time                          | $t_{off}$     | $I_{B1} = -I_{B2} = 0.2\text{A}$             |     | 0.12 | 1   | $\mu\text{s}$ |

\*.  $PW \leq 350\mu\text{s}$ , duty cycle  $\leq 2\%$

■  $h_{FE}$  Classification

| Marking  | M       | L       | K       |
|----------|---------|---------|---------|
| $h_{FE}$ | 100~200 | 150~300 | 200~400 |