

# 2SC5418

## Silicon NPN triple diffusion mesa type

For horizontal deflection output

### Features

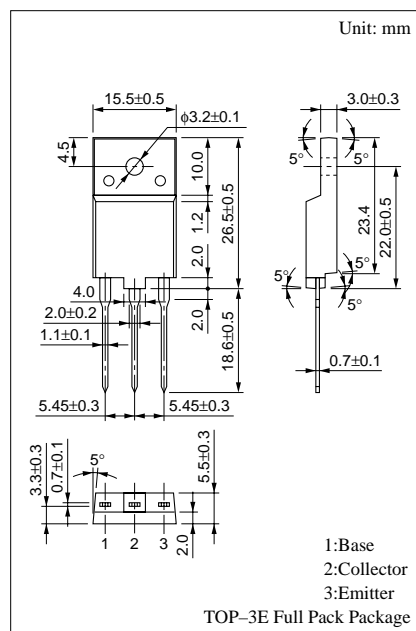
- High breakdown voltage, and high reliability through the use of a glass passivation layer
- High-speed switching
- Wide area of safe operation (ASO)

### Absolute Maximum Ratings ( $T_C=25^\circ\text{C}$ )

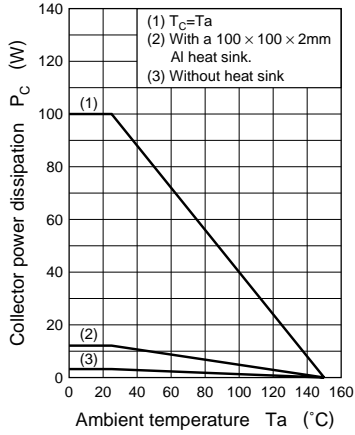
| Parameter                    | Symbol    | Rated                  | Unit             |   |
|------------------------------|-----------|------------------------|------------------|---|
| Collector to base voltage    | $V_{CBO}$ | 1700                   | V                |   |
| Collector to emitter voltage | $V_{CES}$ | 1700                   | V                |   |
|                              | $V_{CEO}$ | 600                    | V                |   |
| Emitter to base voltage      | $V_{EBO}$ | 5                      | V                |   |
| Peak collector current       | $I_{CP}$  | 30                     | A                |   |
| Collector current            | $I_C$     | 20                     | A                |   |
| Base current                 | $I_B$     | 10                     | A                |   |
| Collector power dissipation  | $P_C$     | $T_C=25^\circ\text{C}$ | 100              | W |
|                              |           | $T_a=25^\circ\text{C}$ | 3.5              |   |
| Junction temperature         | $T_j$     | 150                    | $^\circ\text{C}$ |   |
| Storage temperature          | $T_{stg}$ | -55 to +150            | $^\circ\text{C}$ |   |

### Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

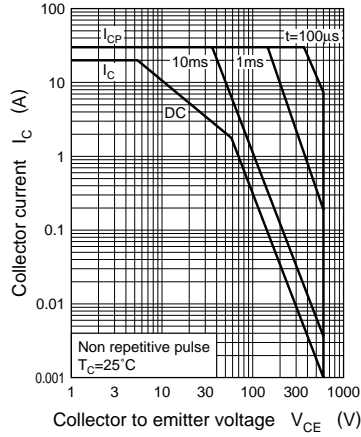
| Parameter                               | Symbol        | Conditions  | min | typ | max | Unit          |
|---|---------------|---|-----|-----|-----|---------------|
| Collector cutoff current                | $I_{CBO}$     | $V_{CB} = 1000\text{V}, I_E = 0$                                |     |     | 50  | $\mu\text{A}$ |
|   |               | $V_{CB} = 1700\text{V}, I_E = 0$                                |     |     | 1   | mA            |
| Emitter cutoff current                  | $I_{EBO}$     | $V_{EB} = 5\text{V}, I_C = 0$                                   |     |     | 50  | $\mu\text{A}$ |
| Forward current transfer ratio          | $h_{FE}$      | $V_{CE} = 5\text{V}, I_C = 10\text{A}$                          | 7   |     | 14  |               |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10\text{A}, I_B = 2.8\text{A}$                           |     |     | 3   | V             |
| Base to emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = 10\text{A}, I_B = 2.8\text{A}$                           |     |     | 1.5 | V             |
| Transition frequency                    | $f_T$         | $V_{CE} = 10\text{V}, I_C = 0.1\text{A}, f = 0.5\text{MHz}$     |     | 3   |     | MHz           |
| Storage time                            | $t_{stg}$     | $I_C = 12\text{A}, I_{B1} = 2.4\text{A}, I_{B2} = -4.8\text{A}$ |     |     | 4.0 | $\mu\text{s}$ |
| Fall time                               | $t_f$         |   |     |     | 0.3 | $\mu\text{s}$ |



$P_C - T_a$



Area of safe operation (ASO)



Area of safe operation, horizontal operation ASO

