

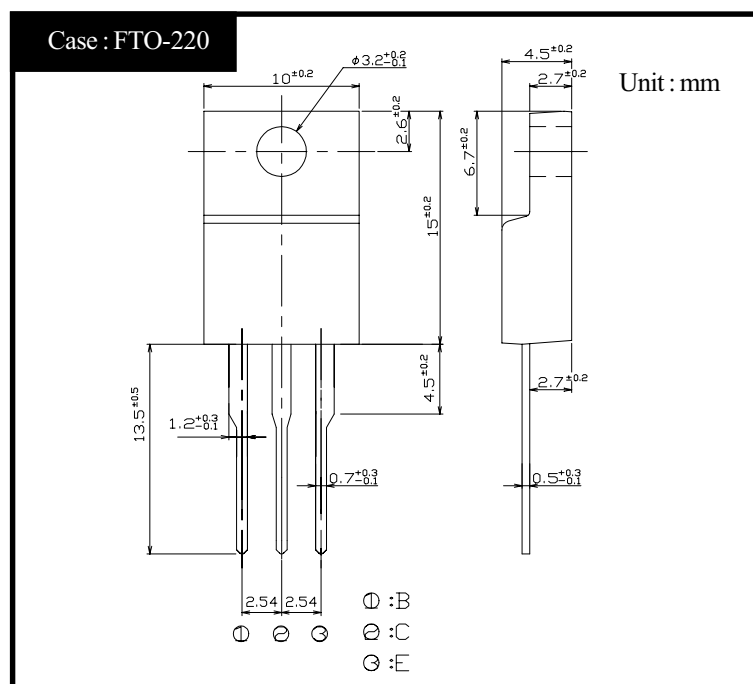
# SHINDENG

## Switching Power Transistor

# 2SC5382

## 6A NPN

### OUTLINE DIMENSIONS



### RATINGS

#### ● Absolute Maximum Ratings

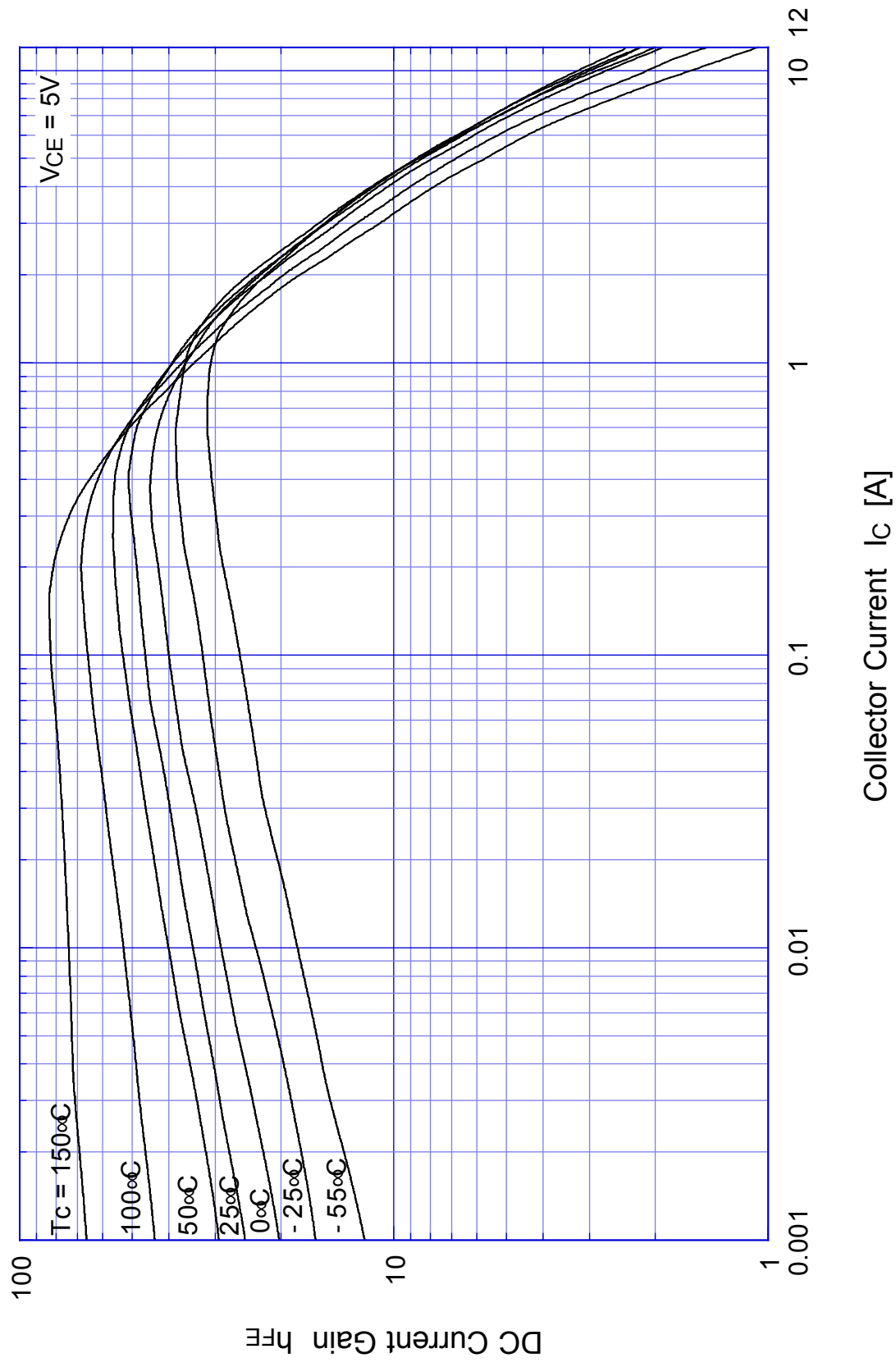
| Item                         | Symbol    | Conditions                     | Ratings  | Unit |
|------------------------------|-----------|--------------------------------|----------|------|
| Storage Temperature          | $T_{stg}$ |                                | -55~150  | °C   |
| Junction Temperature         | $T_j$     |                                | 150      | °C   |
| Collector to Base Voltage    | $V_{CBO}$ |                                | 1200     | V    |
| Collector to Emitter Voltage | $V_{CEO}$ |                                | 550      | V    |
| Emitter to Base Voltage      | $V_{EBO}$ |                                | 9        | V    |
| Collector Current DC         | $I_C$     |                                | 6        | A    |
| Collector Current Peak       | $I_{CP}$  |                                | 12       |      |
| Base Current DC              | $I_B$     |                                | 3        | A    |
| Base Current Peak            | $I_{BP}$  |                                | 6        |      |
| Total Transistor Dissipation | $P_T$     |                                | 40       | W    |
| Dielectric Strength          | $V_{dis}$ | Terminals to case, AC 1 minute | 2        | kV   |
| Mounting Torque              | TOR       | (Recommended torque)           | 0.5(0.3) | N·m  |

#### ● Electrical Characteristics ( $T_c=25^{\circ}C$ )

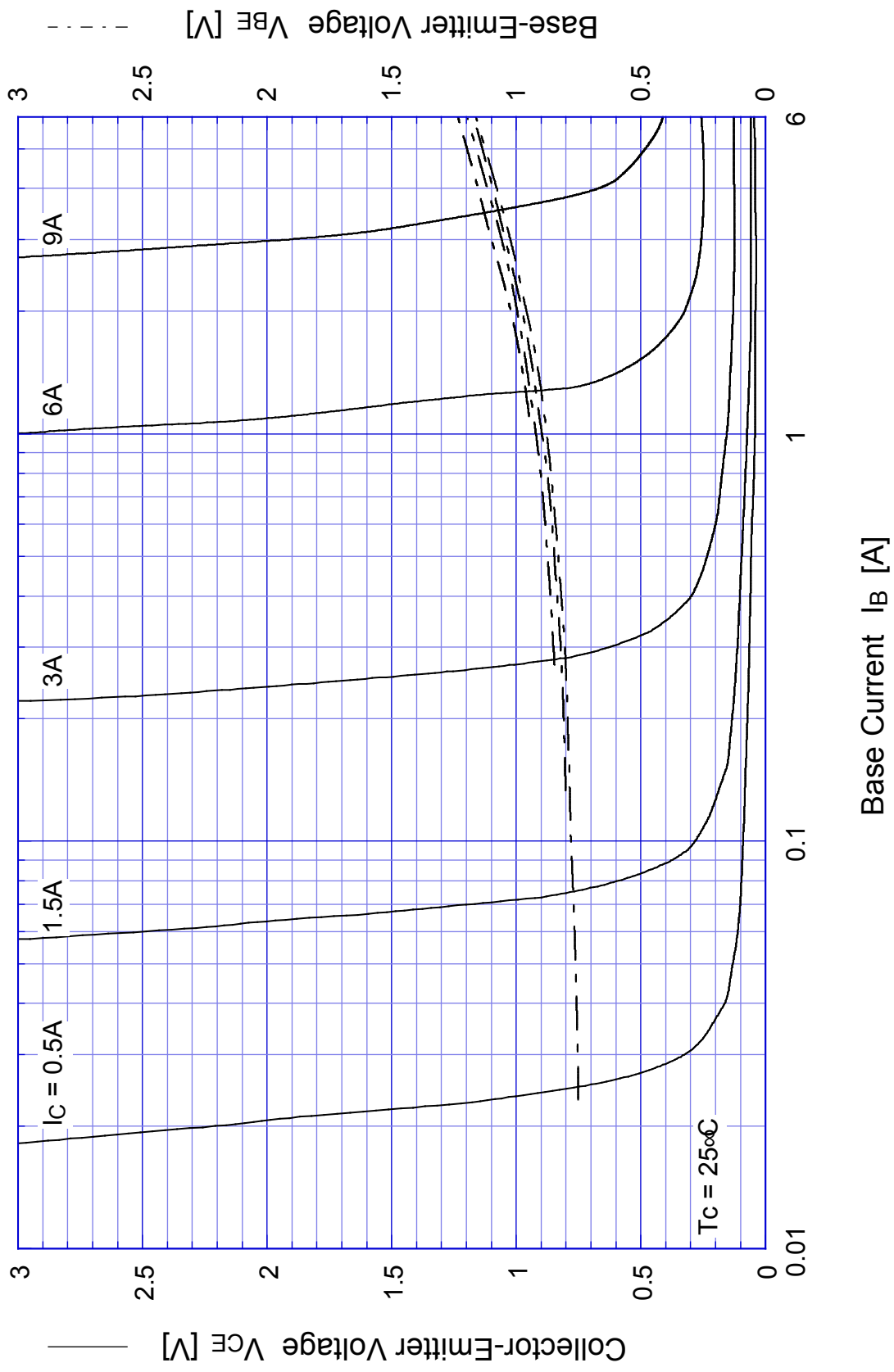
| Item                                    | Symbol         | Conditions                     | Ratings  | Unit    |
|-----------------------------------------|----------------|--------------------------------|----------|---------|
| Collector to Emitter Sustaining Voltage | $V_{CEO(sus)}$ | $I_C = 0.1A$                   | Min 550  | V       |
| Collector Cutoff Current                | $I_{CBO}$      | $V_{CB} = 1200V$               | Max 0.1  | mA      |
|                                         | $I_{CEO}$      | $V_{CE} = 550V$                | Max 0.1  |         |
| Emitter Cutoff Current                  | $I_{EBO}$      | $V_{EB} = 9V$                  | Max 0.1  | mA      |
| DC Current Gain                         | $h_{FE}$       | $V_{CE} = 5V, I_C = 3A$        | Min 10   |         |
|                                         | $h_{FEL}$      | $V_{CE} = 5V, I_C = 1mA$       | Min 10   |         |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C = 3A$                     | Max 1.0  | V       |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_B = 0.6A$                   | Max 1.5  | V       |
| Thermal Resistance                      | $\theta_{jc}$  | Junction to case               | Max 3.13 | °C/W    |
| Turn on Time                            | $t_{on}$       | $I_C = 3A$                     | Max 1.3  | $\mu s$ |
| Storage Time                            | $t_s$          | $I_{B1} = 0.6A, I_{B2} = 1.2A$ | Max 4.0  |         |
| Fall Time                               | $t_f$          | $R_L = 50\Omega, V_{BB2} = 4V$ | Max 0.3  |         |

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$h_{FE} - I_C$

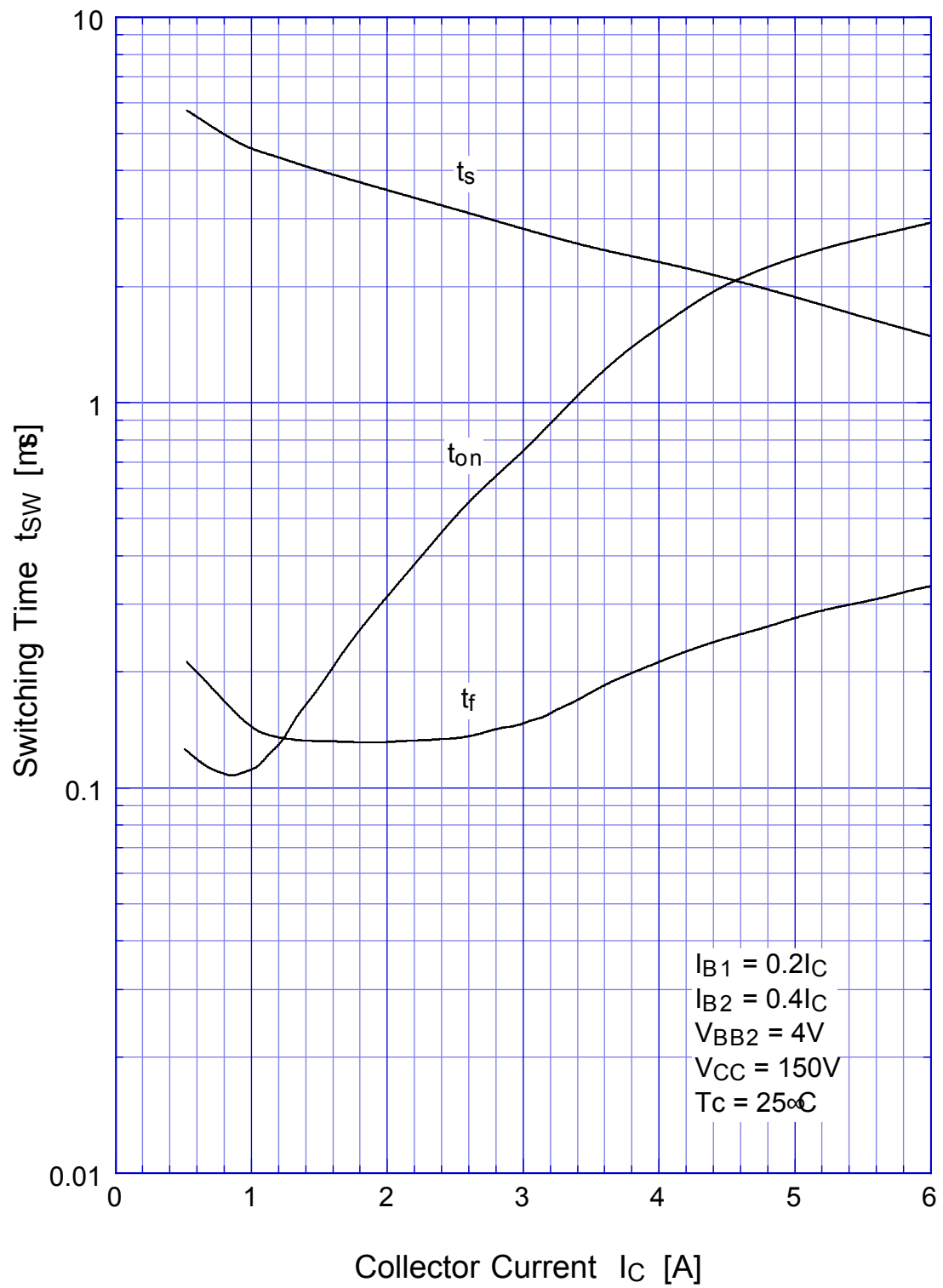


# 2SC5382 Saturation Voltage



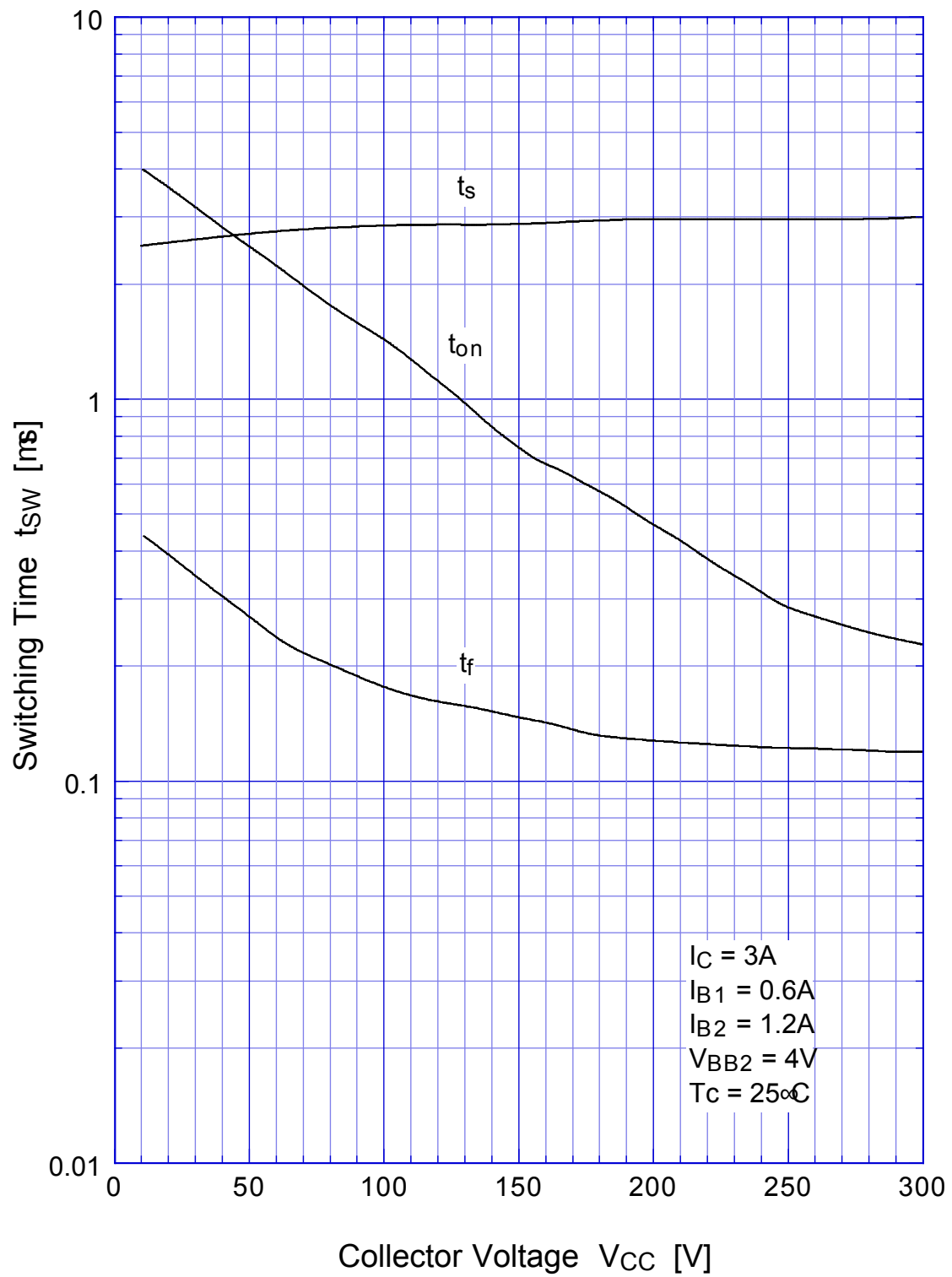
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Switching Time -  $I_C$



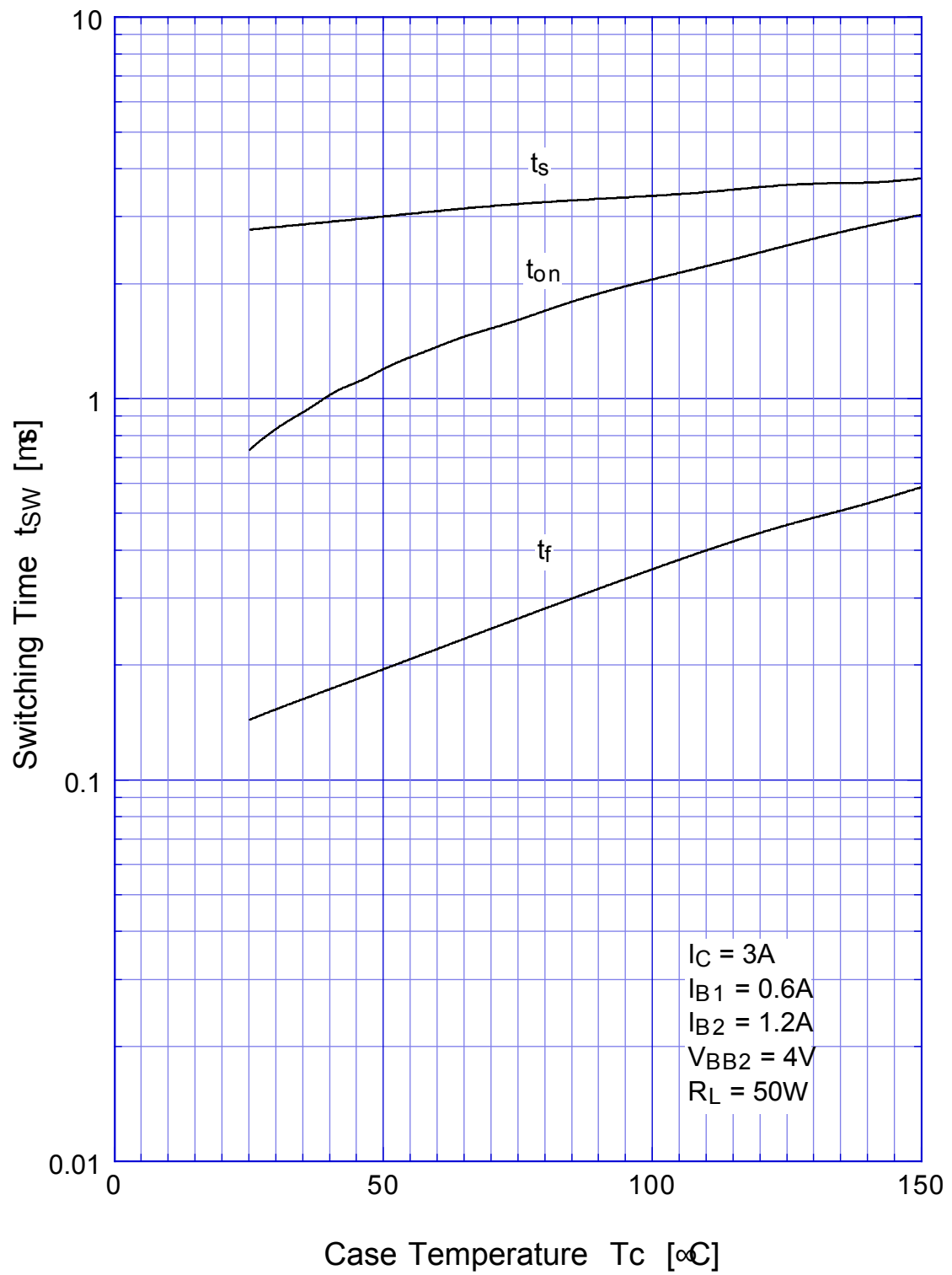
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## Switching Time - $V_{CC}$

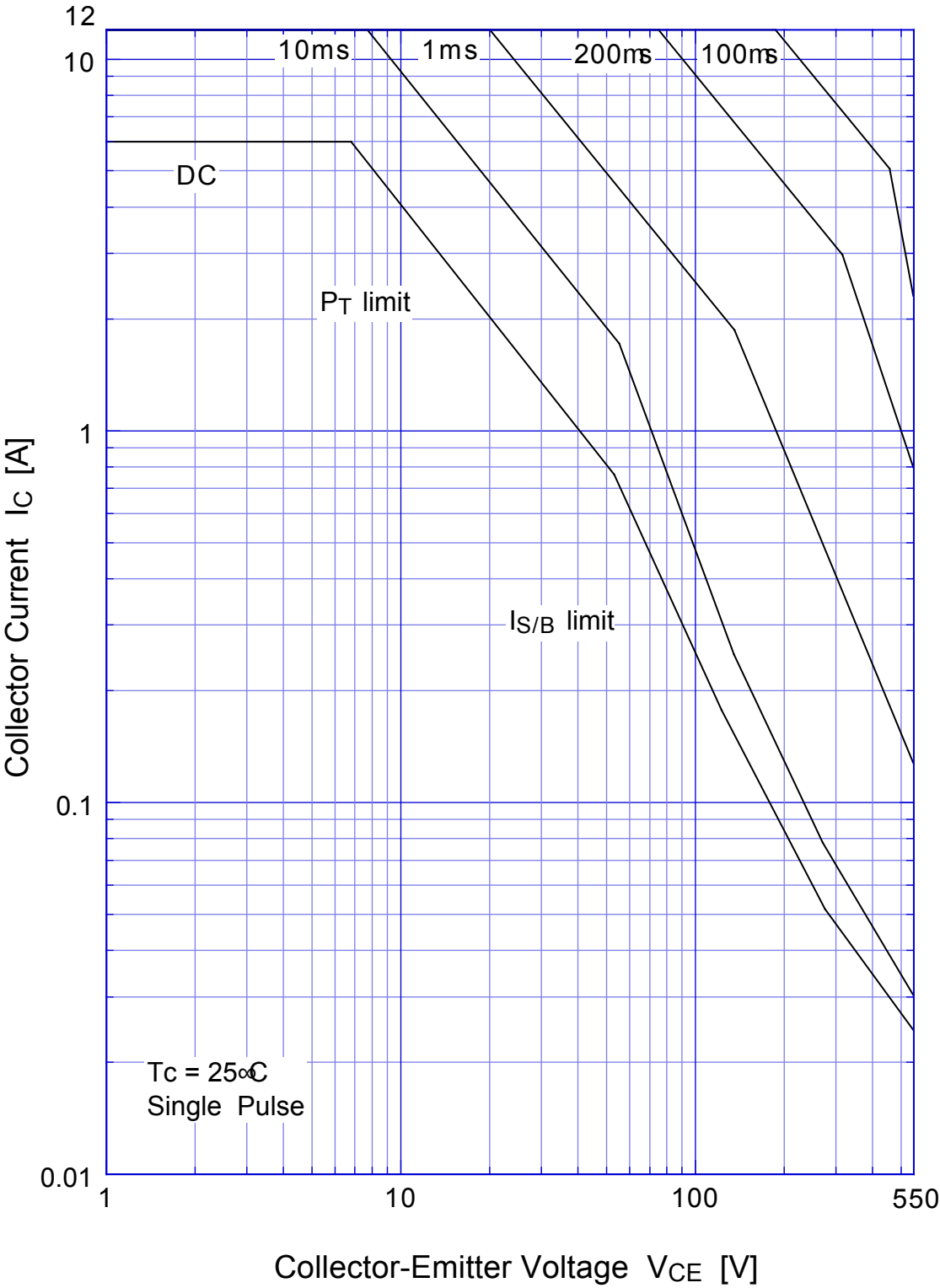


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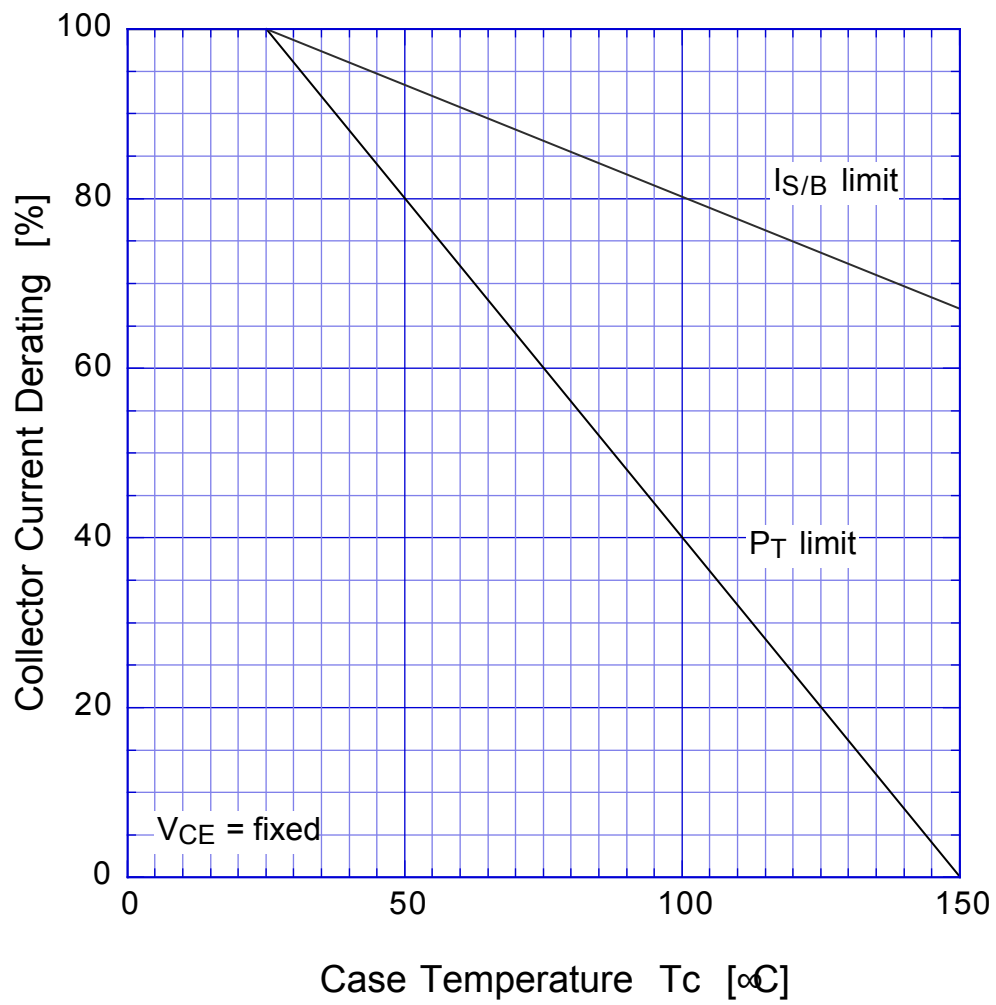
Switching Time -  $T_c$



2SC5382 Forward Bias SOA

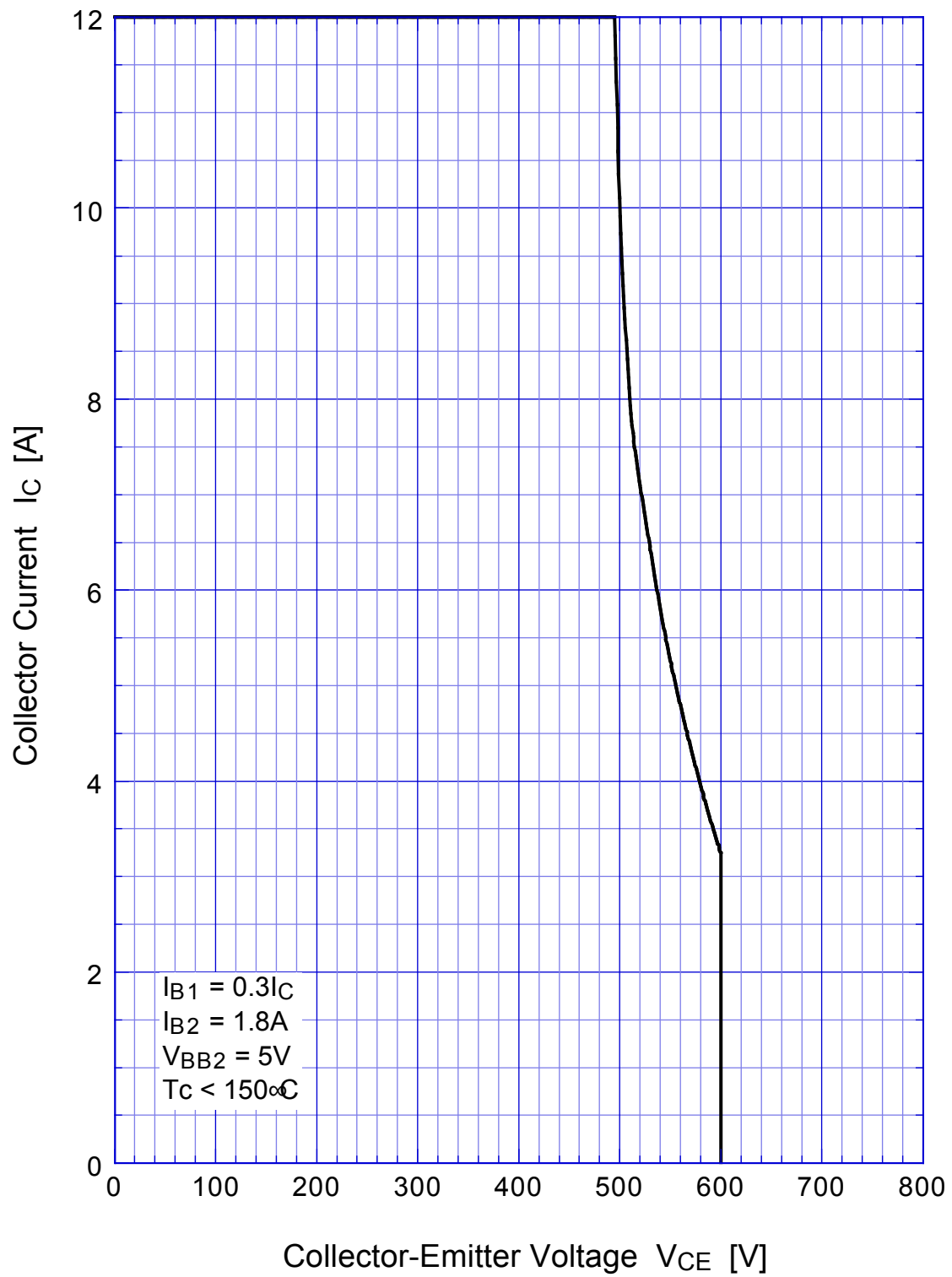


## 2SC5382 Collector Current Derating



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Reverse Bias SOA



## 2SC5382      Transient Thermal Impedance

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