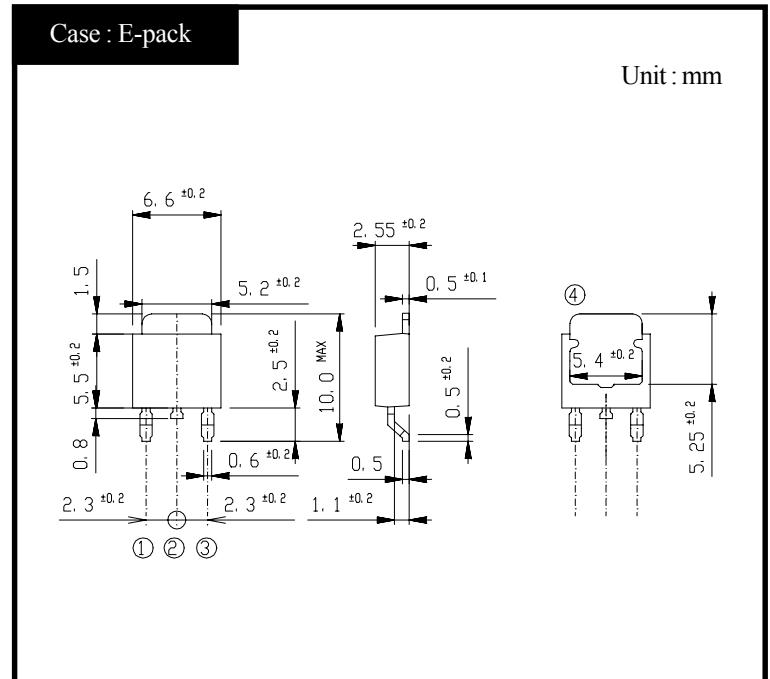


# 2SC4668

(TE7S4)

## 7A NPN

### OUTLINE DIMENSIONS



### RATINGS

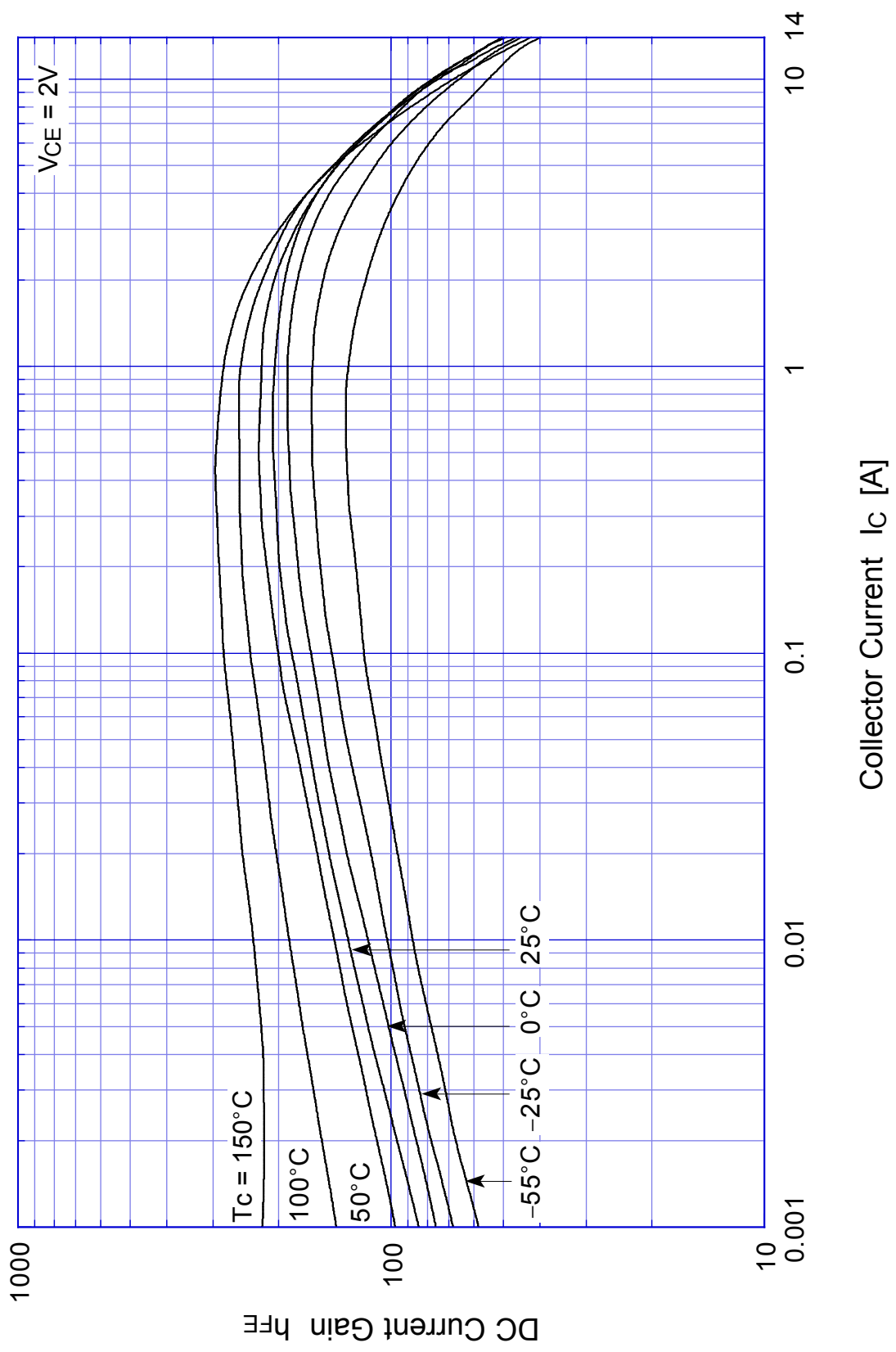
#### ● Absolute Maximum Ratings

| Item                         | Symbol    | Conditions               | Ratings | Unit |
|------------------------------|-----------|--------------------------|---------|------|
| Storage Temperature          | $T_{stg}$ |                          | -55~150 | °C   |
| Junction Temperature         | $T_j$     |                          | 150     | °C   |
| Collector to Base Voltage    | $V_{CBO}$ |                          | 60      | V    |
| Collector to Emitter Voltage | $V_{CEO}$ |                          | 40      | V    |
| Emitter to Base Voltage      | $V_{EBO}$ |                          | 7       | V    |
| Collector Current DC         | $I_C$     |                          | 7       | A    |
| Collector Current Peak       | $I_{CP}$  |                          | 14      | A    |
| Base Current DC              | $I_B$     |                          | 1.5     | A    |
| Base Current Peak            | $I_{BP}$  |                          | 2       | A    |
| Total Transistor Dissipation | $P_T$     | $T_c = 25^\circ\text{C}$ | 10      | W    |

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

| Item                                    | Symbol         | Conditions  | Ratings  | Unit          |
|---|----------------|---|----------|---------------|
| Collector to Emitter Sustaining Voltage | $V_{CEO(sus)}$ | $I_C = 0.1\text{A}$   | Min 40   | V             |
| Collector Cutoff Current                | $I_{CBO}$      | At rated Voltage  | Max 0.1  | mA            |
|   | $I_{CEO}$      |   | Max 0.1  |               |
| Emitter Cutoff Current                  | $I_{EBO}$      | At rated Voltage  | Max 0.1  | mA            |
| DC Current Gain                         | $h_{FE}$       | $V_{CE} = 2\text{V}, I_C = 3.5\text{A}$   | Min 70   |               |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C = 3.5\text{A}$   | Max 0.3  | V             |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_B = 0.2\text{A}$   | Max 1.2  | V             |
| Thermal Resistance                      | $\theta_{jc}$  | Junction to case  | Max 12.5 | °C/W          |
| Transition Frequency                    | $f_T$          | $V_{CE} = 10\text{V}, I_C = 0.7\text{A}$  | TYP 50   | MHz           |
| Turn on Time                            | $t_{on}$       | $I_C = 3.5\text{A}$<br>$I_{B1} = 0.35\text{A}, I_{B2} = 0.35\text{A}$<br>$R_L = 8\Omega, V_{BB2} = 4\text{V}$ | Max 0.3  | $\mu\text{s}$ |
| Storage Time                            | $t_s$          |   | Max 1.5  |               |
| Fall Time                               | $t_f$          |   | Max 0.5  |               |

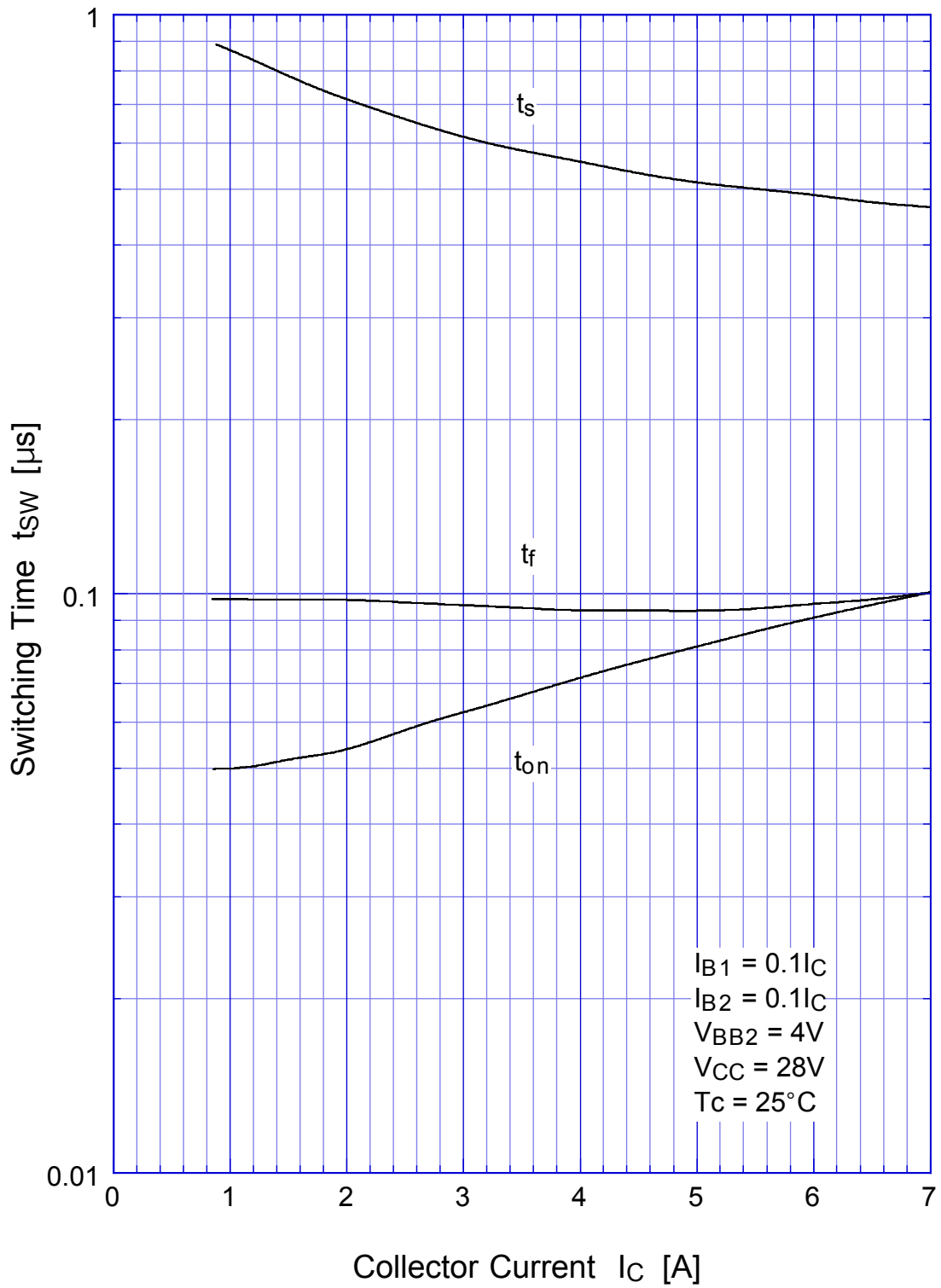
# 2SC4668 $h_{FE} - I_c$





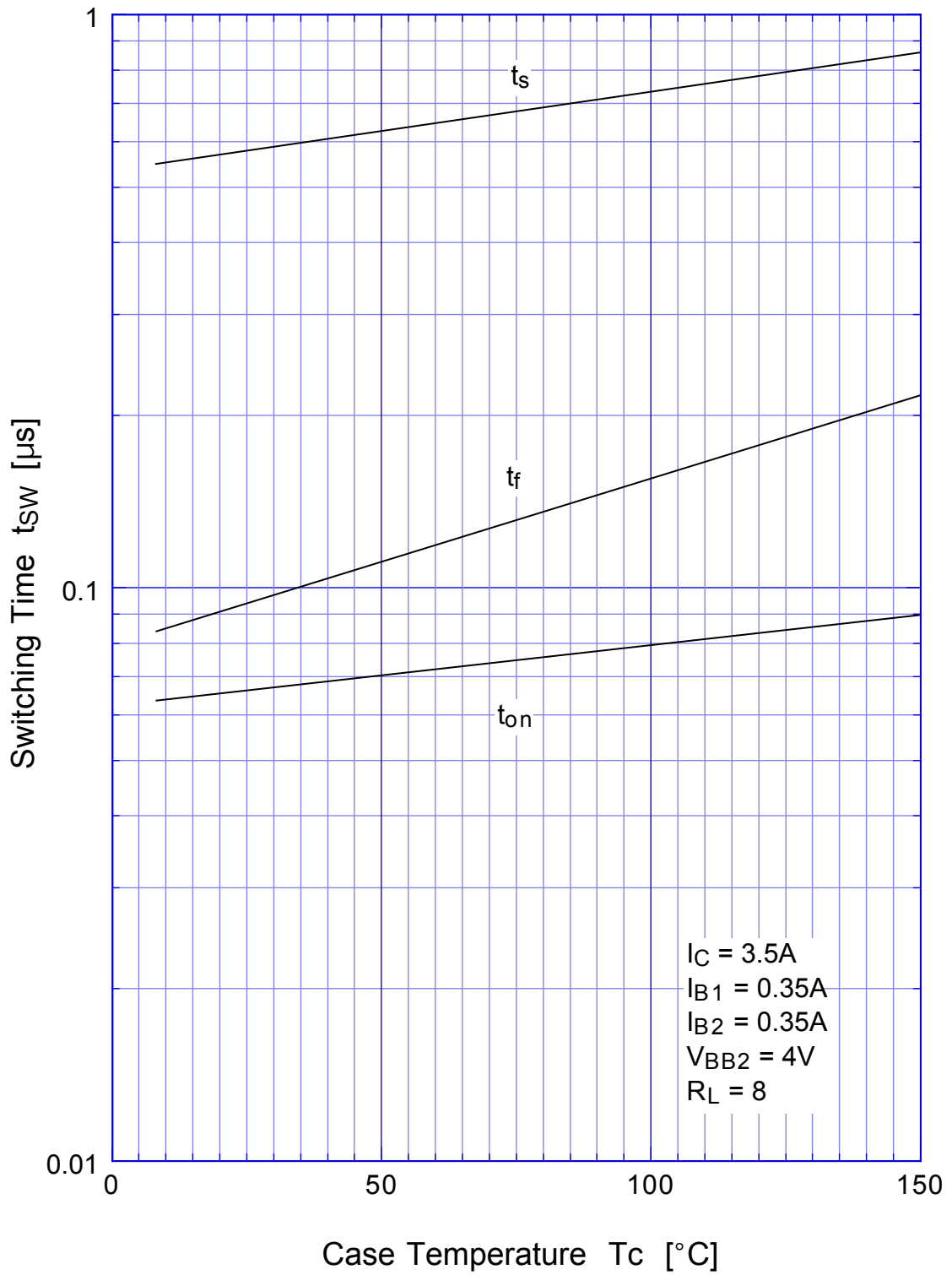
# 2SC4668

## Switching Time - $I_C$

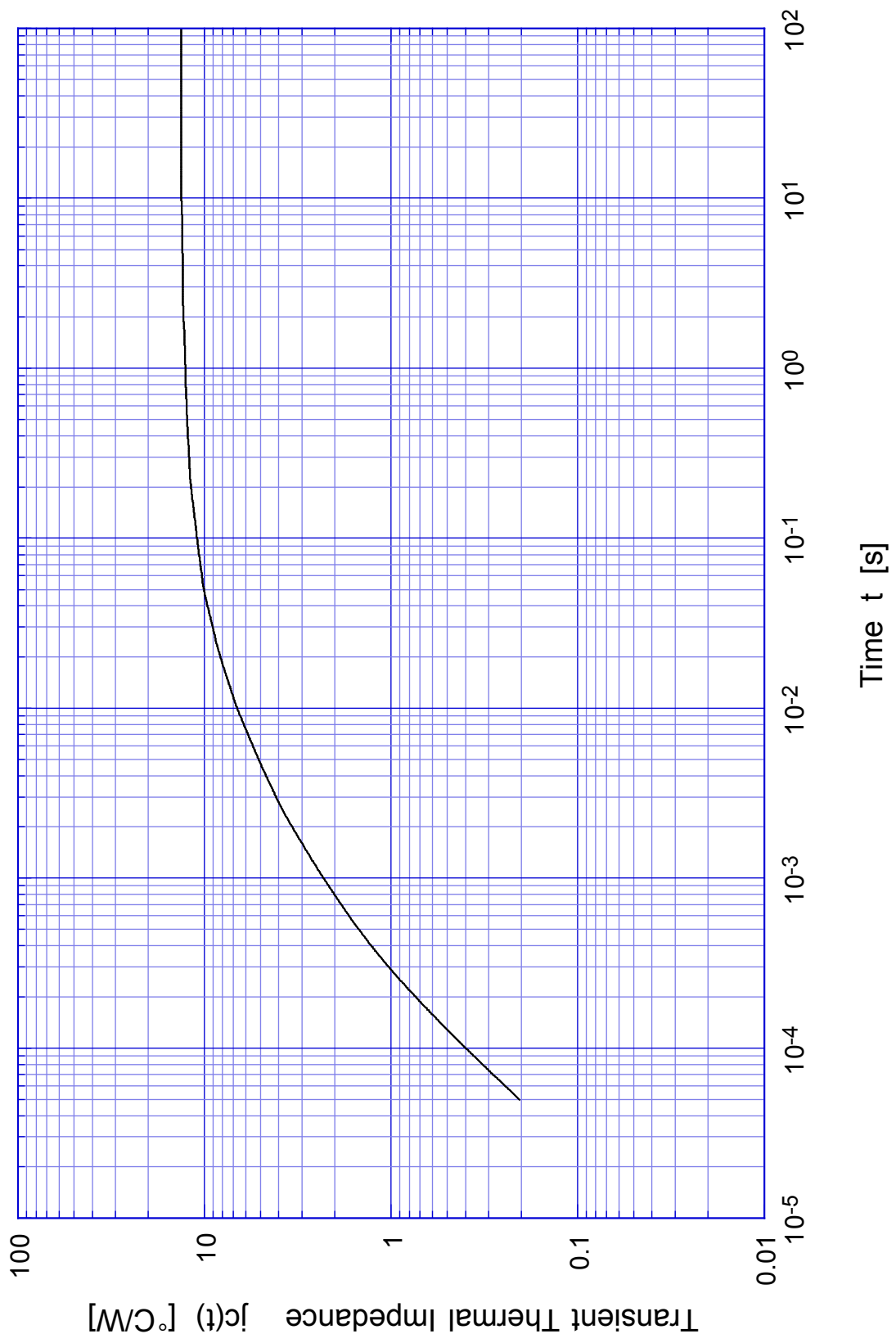


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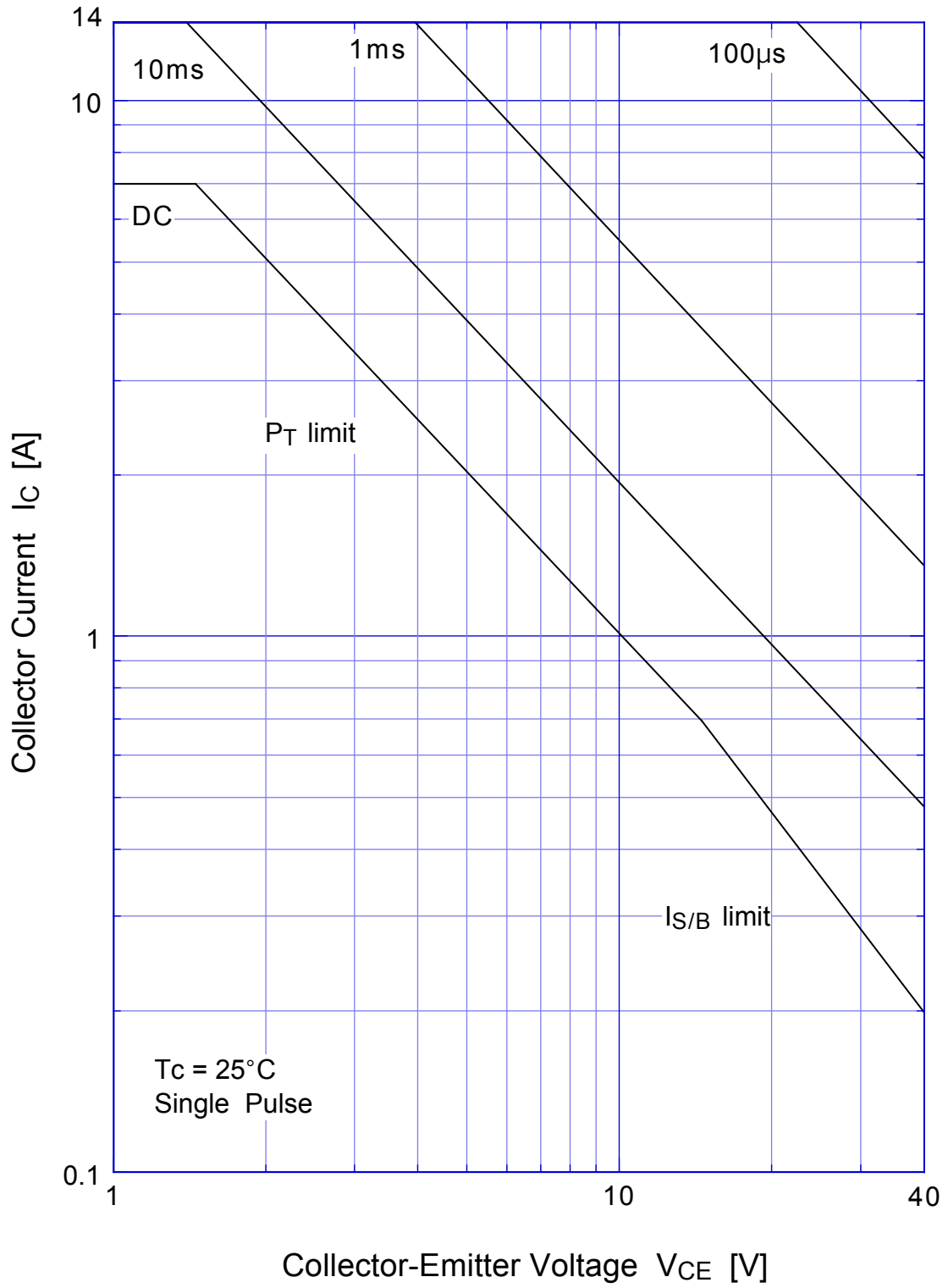
## Switching Time - Tc



# 2SC4668 Transient Thermal Impedance



2SC4668 Forward Bias SOA



## 2SC4668 Collector Current Derating





2SC4668

Reverse Bias SOA

