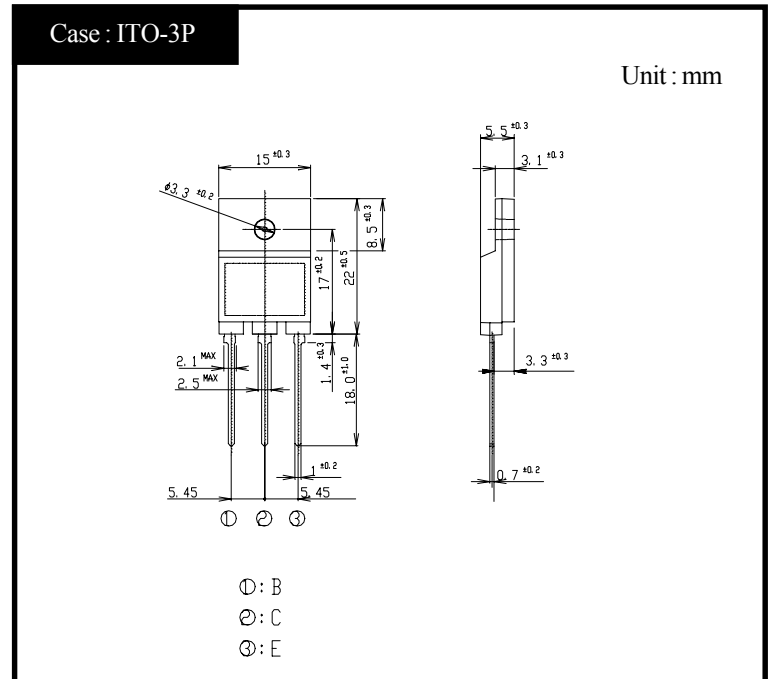


2SC4583

(TP3W80HFX)

3A NPN

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings

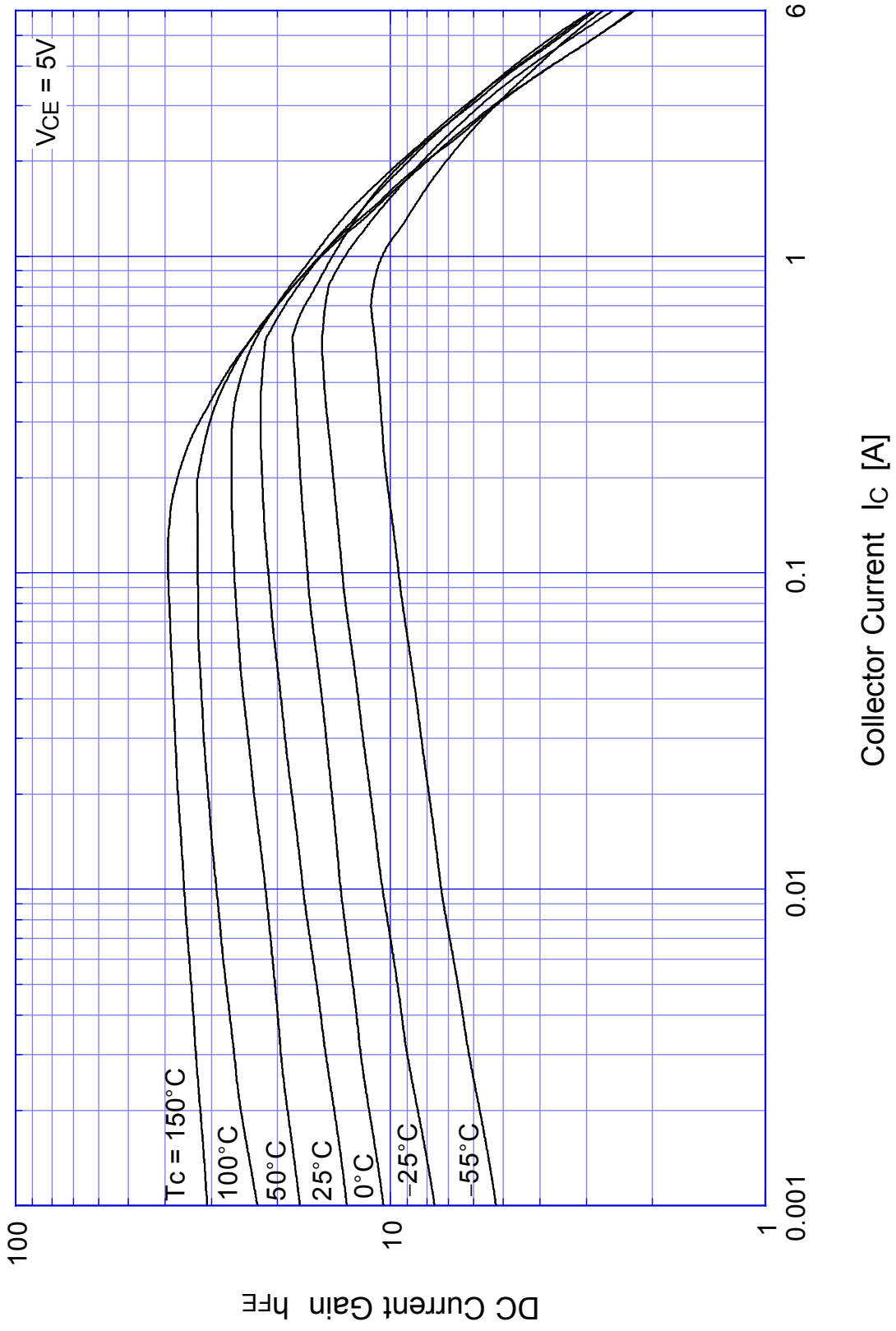
| Item | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|---------------------------------|---------|------|
| Storage Temperature | T_{stg} | | -55~150 | °C |
| Junction Temperature | T_j | | 150 | °C |
| Collector to Base Voltage | V_{CBO} | | 1200 | V |
| Collector to Emitter Voltage | V_{CEO} | | 800 | V |
| Emitter to Base Voltage | V_{EBO} | | 7 | V |
| Collector Current DC | I_C | | 3 | A |
| Collector Current Peak | I_{CP} | | 6 | A |
| Base Current DC | I_B | | 1 | A |
| Base Current Peak | I_{BP} | | 2 | A |
| Total Transistor Dissipation | P_T | $T_c = 25^\circ\text{C}$ | 50 | W |
| Dielectric Strength | V_{dis} | Terminals to cased, AC 1 minute | 2 | kV |
| Mounting Torque | TOR | (Recommended torque : 0.5N·m) | 0.8 | N·m |

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

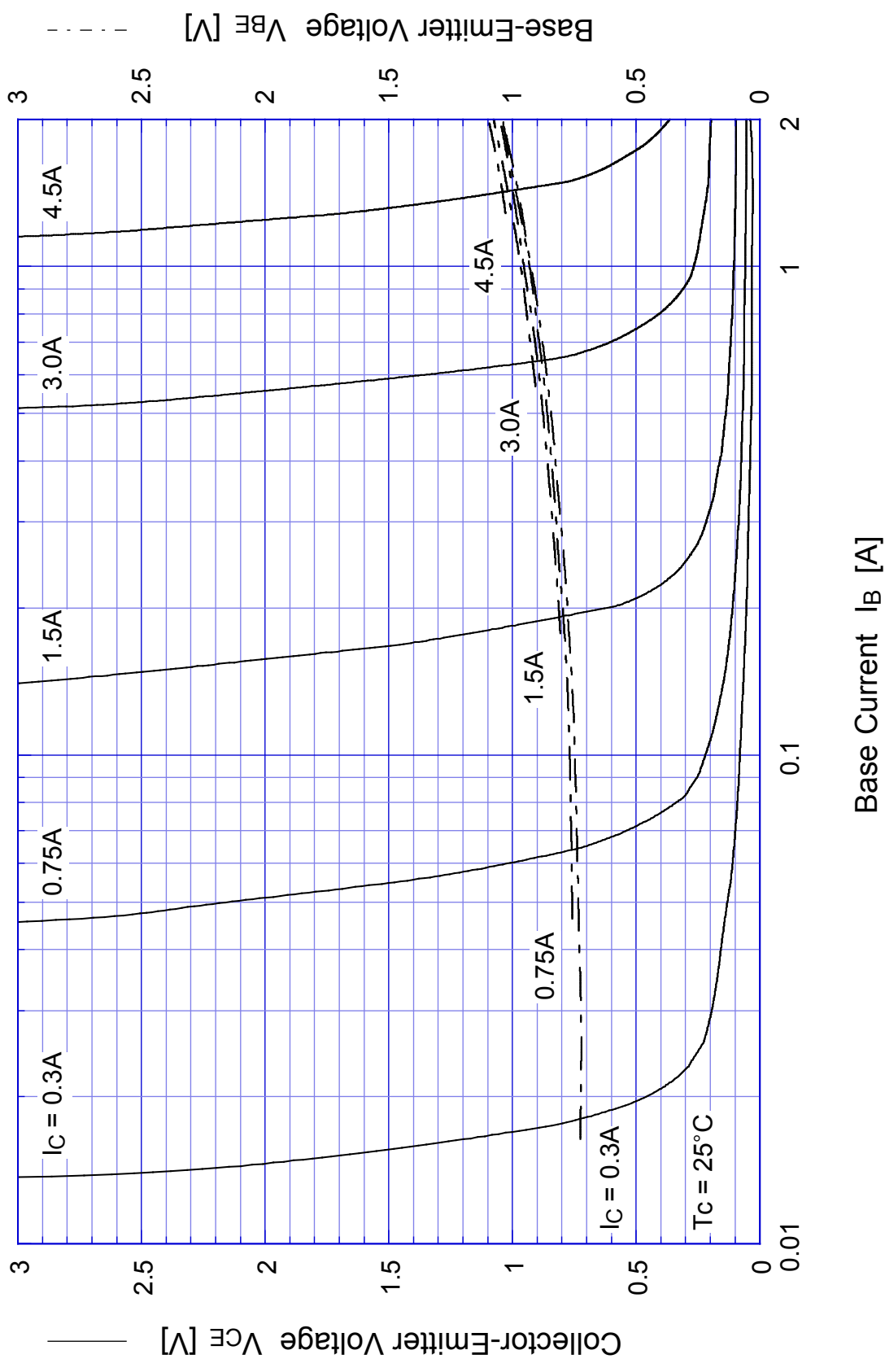
| Item | Symbol | Conditions | Ratings | Unit |
|---|----------------|--|---------|---------------|
| Collector to Emitter Sustaining Voltage | $V_{CEO(sus)}$ | $I_C = 0.1\text{A}$ | Min 800 | V |
| Collector Cutoff Current | I_{CBO} | At rated Voltage | Max 0.1 | mA |
| | I_{CEO} | | Max 0.1 | |
| Emitter Cutoff Current | I_{EBO} | At rated Voltage | Max 0.1 | mA |
| DC Current Gain | h_{FE} | $V_{CE} = 5\text{V}, I_C = 1.5\text{A}$ | Min 8 | |
| | h_{FEL} | $V_{CE} = 5\text{V}, I_C = 1\text{mA}$ | Min 7 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 1.5\text{A}$ | Max 1.0 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_B = 0.3\text{A}$ | Max 1.5 | V |
| Thermal Resistance | θ_{jc} | Junction to case | Max 2.5 | °C/W |
| Transition Frequency | f_T | $V_{CE} = 10\text{V}, I_C = 0.3\text{A}$ | TYP 8 | MHz |
| Turn on Time | t_{on} | $I_C = 1.5\text{A}$ | Max 0.5 | μs |
| Storage Time | t_s | $I_{B1} = 0.3\text{A}, I_{B2} = 0.6\text{A}$ | Max 3.5 | |
| Fall Time | t_f | $R_L = 167\Omega, V_{BB2} = 4\text{V}$ | Max 0.3 | |

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$h_{FE} - I_C$

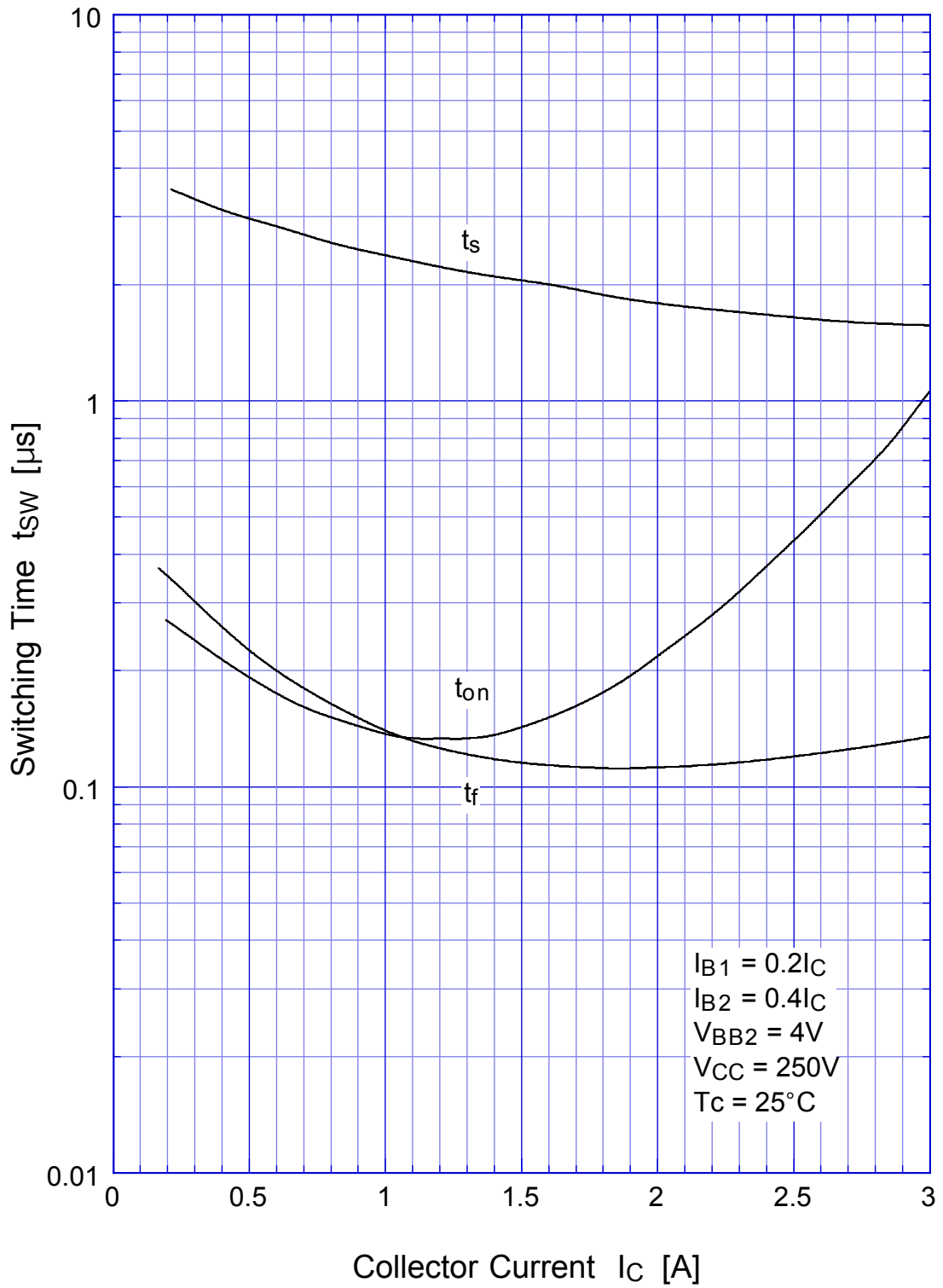


2SC4583 Saturation Voltage

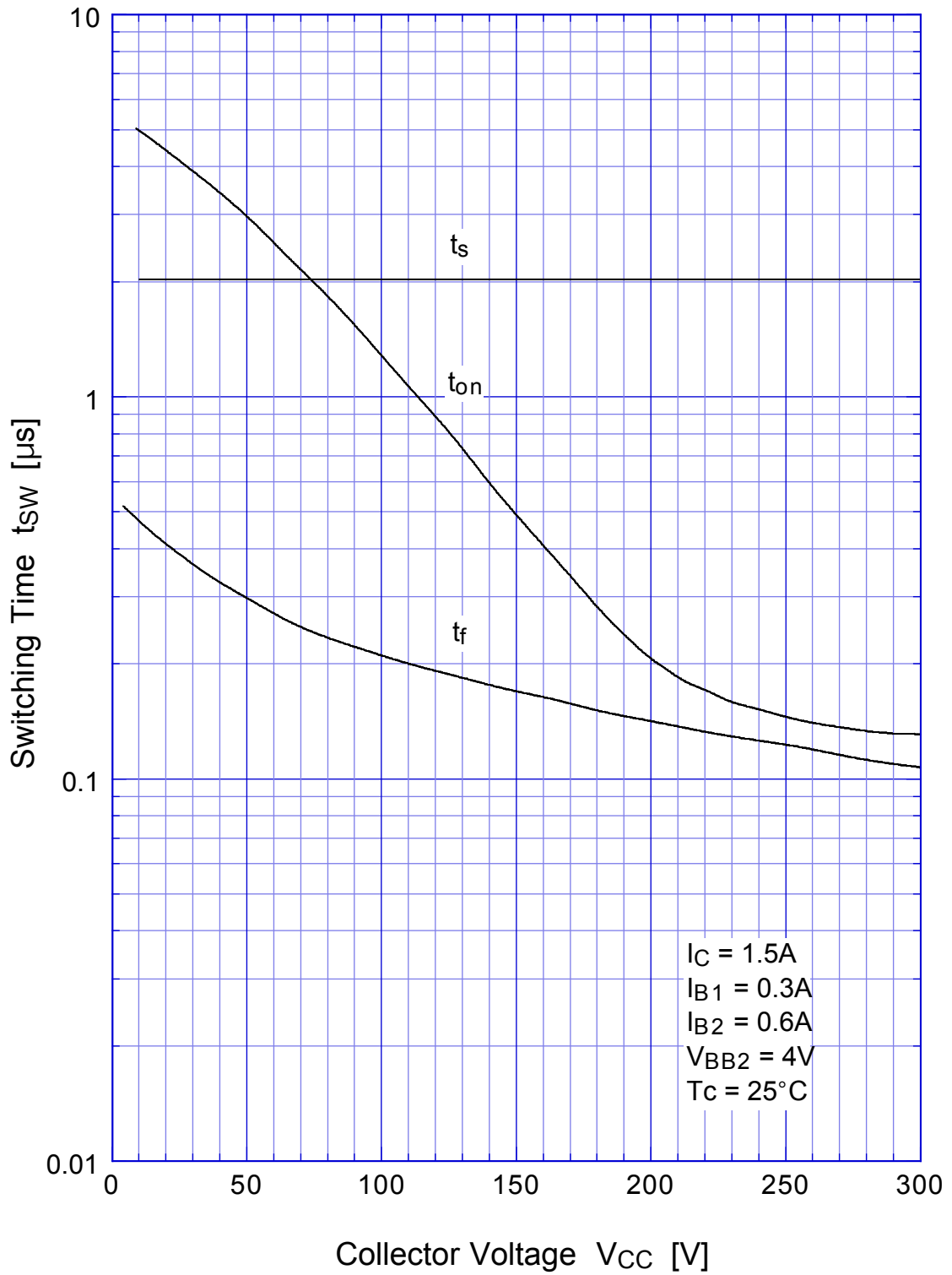


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Switching Time - I_C

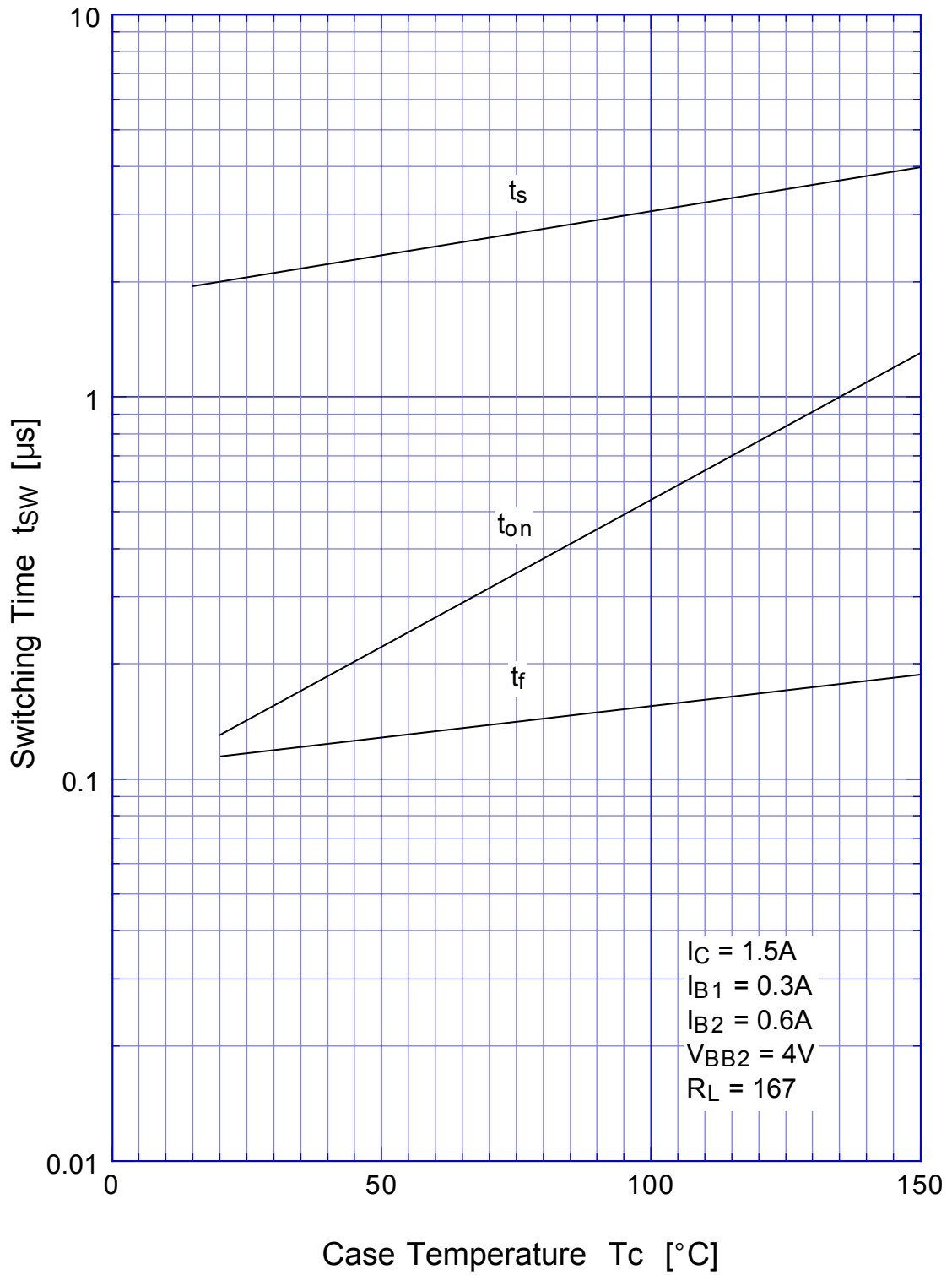


2SC4583 Switching Time - V_{CC}

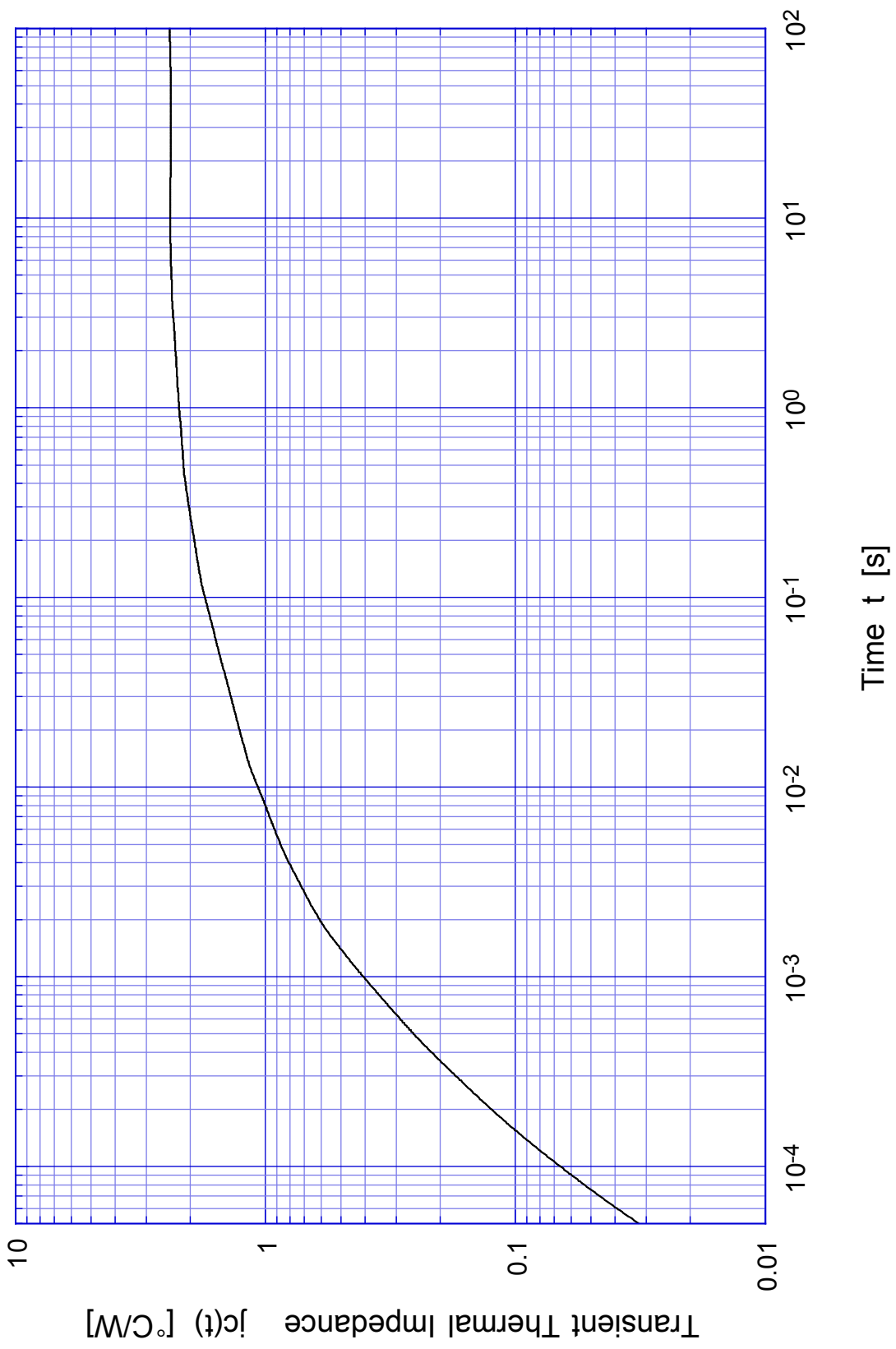


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Switching Time - Tc

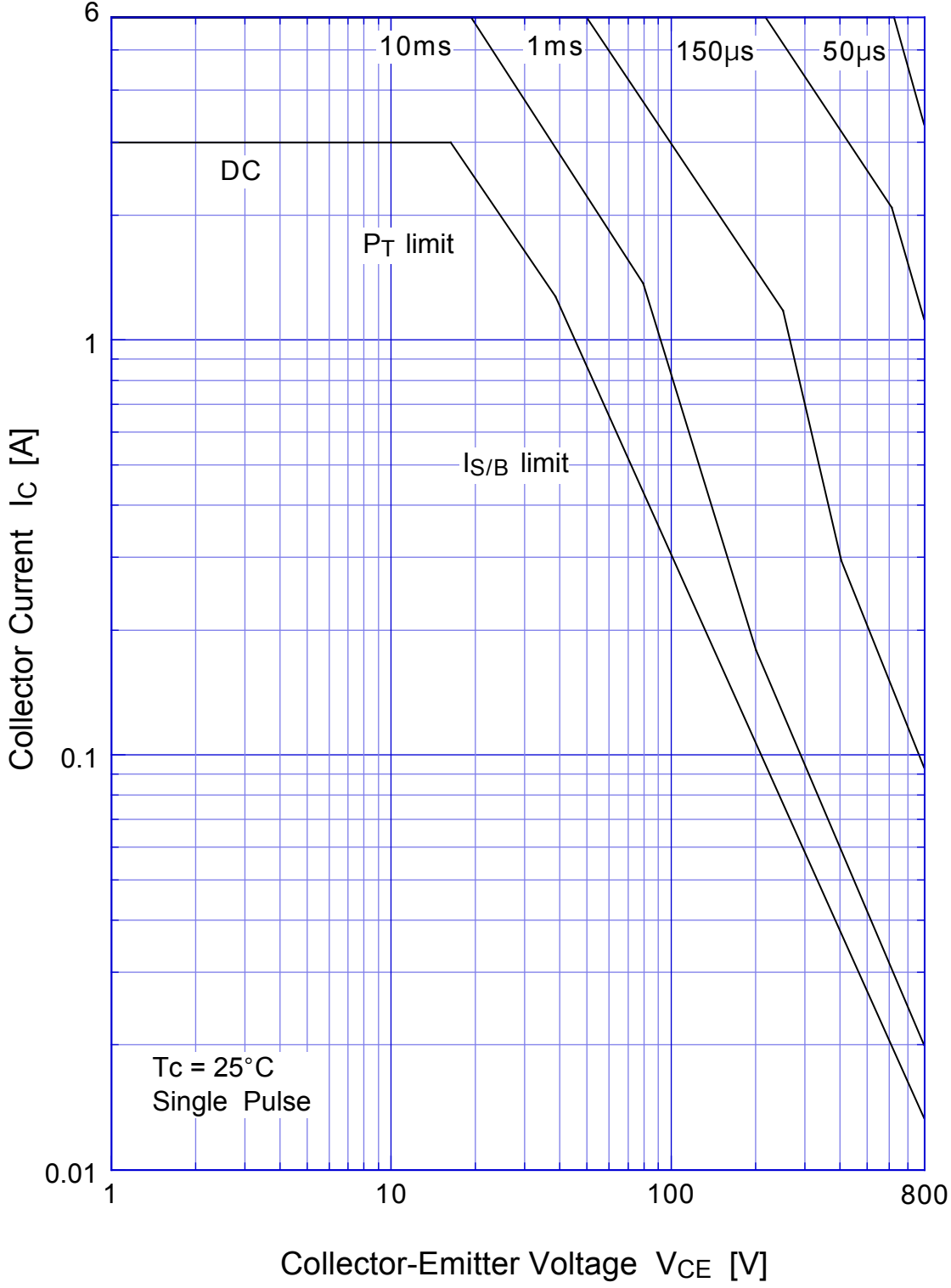


2SC4583 Transient Thermal Impedance

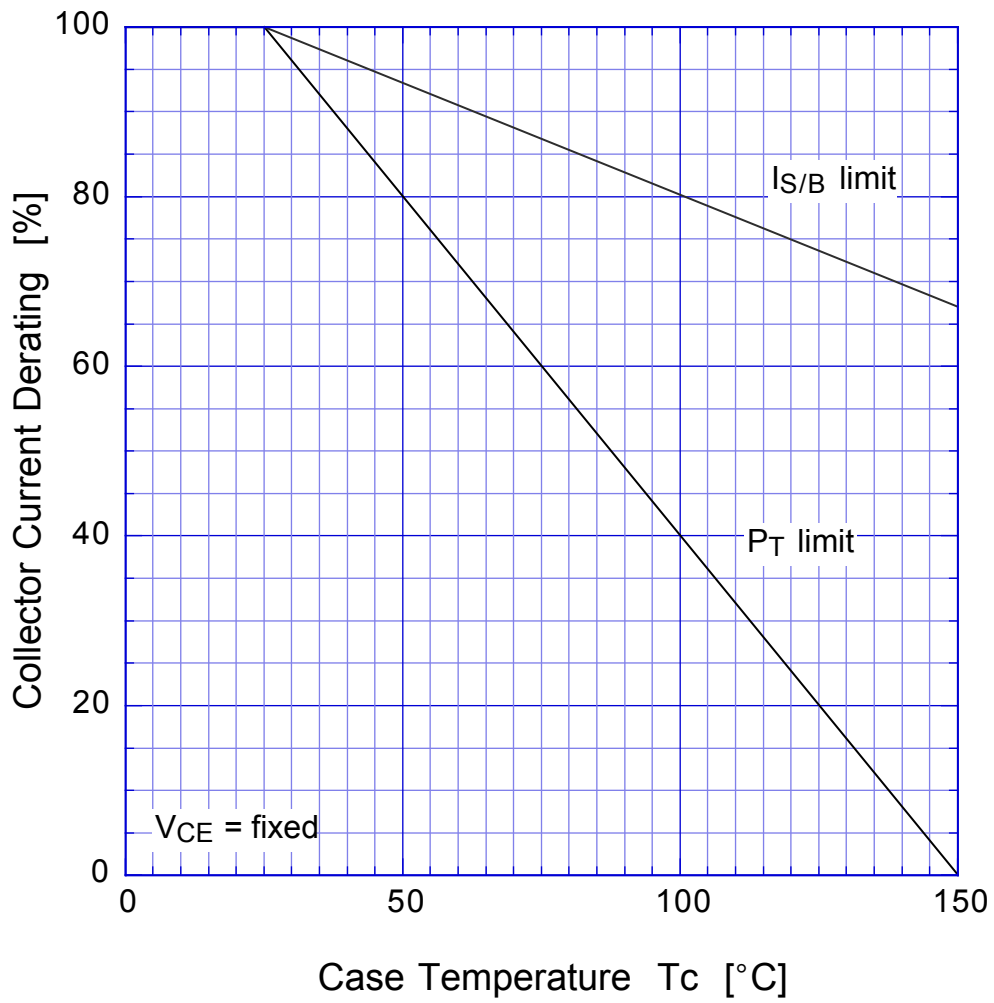


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Forward Bias SOA



2SC4583 Collector Current Derating



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Reverse Bias SOA

