

SHINDENGEN

Switching Power Transistor

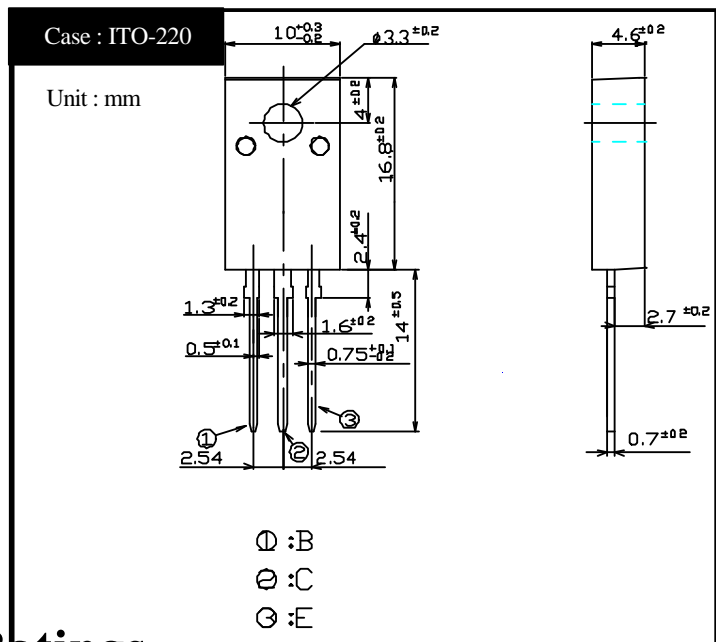
LSV Series

2SC4876

(TP30S4)

30A NPN

OUTLINE DIMENSIONS



RATINGS

• Absolute Maximum Ratings

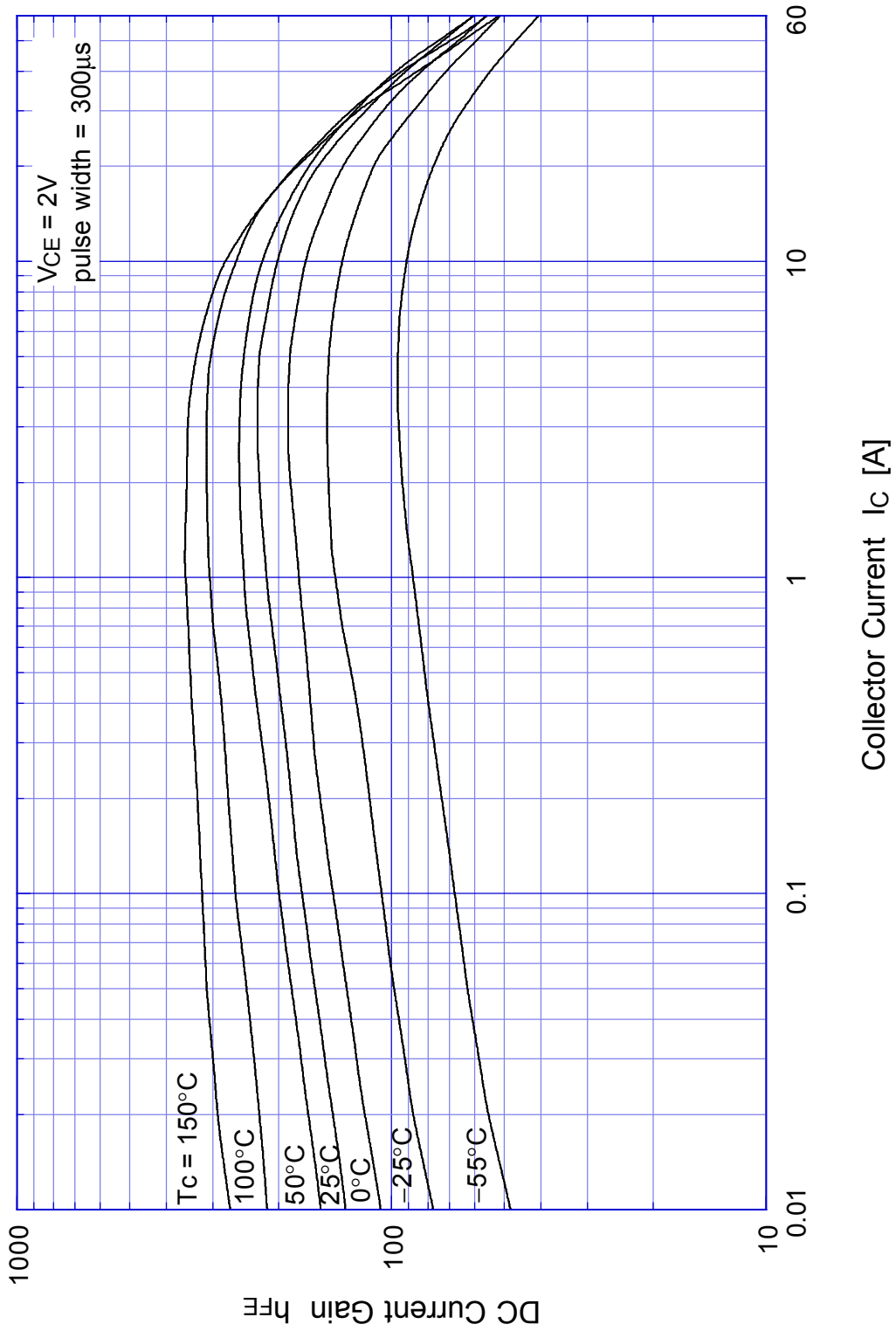
| Item | Symbol | Conditions | Rating | Unit |
|------------------------------|-------------|----------------------------|-----------|------|
| Storage Temperature | T_{stg} | | -55 ~ 150 | °C |
| Junction Temperature | T_j | | 150 | °C |
| Collector to Base Voltage | V_{CB} | | 60 | V |
| Collector to Emitter Voltage | V_{CE} | | 40 | V |
| Emitter to Base Voltage | V_{EB} | | 7 | V |
| Collector Current DC | $I_{C(DC)}$ | | 30 | A |
| Collector Current Peak | I_{CP} | | 60 | A |
| Base Current DC | I_B | | 4 | A |
| Base Current Peak | I_{BP} | | 6 | A |
| Total Transistor Dissipation | P_{tot} | $T_c = 25^\circ\text{C}$ | 45 | W |
| Dielectric Strength | V_{dis} | Terminal to case, AC 12min | 1200 | V |
| Mounting Torque | TOR | (Recommended torque) | 0.5 ~ 0.8 | Nm |

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

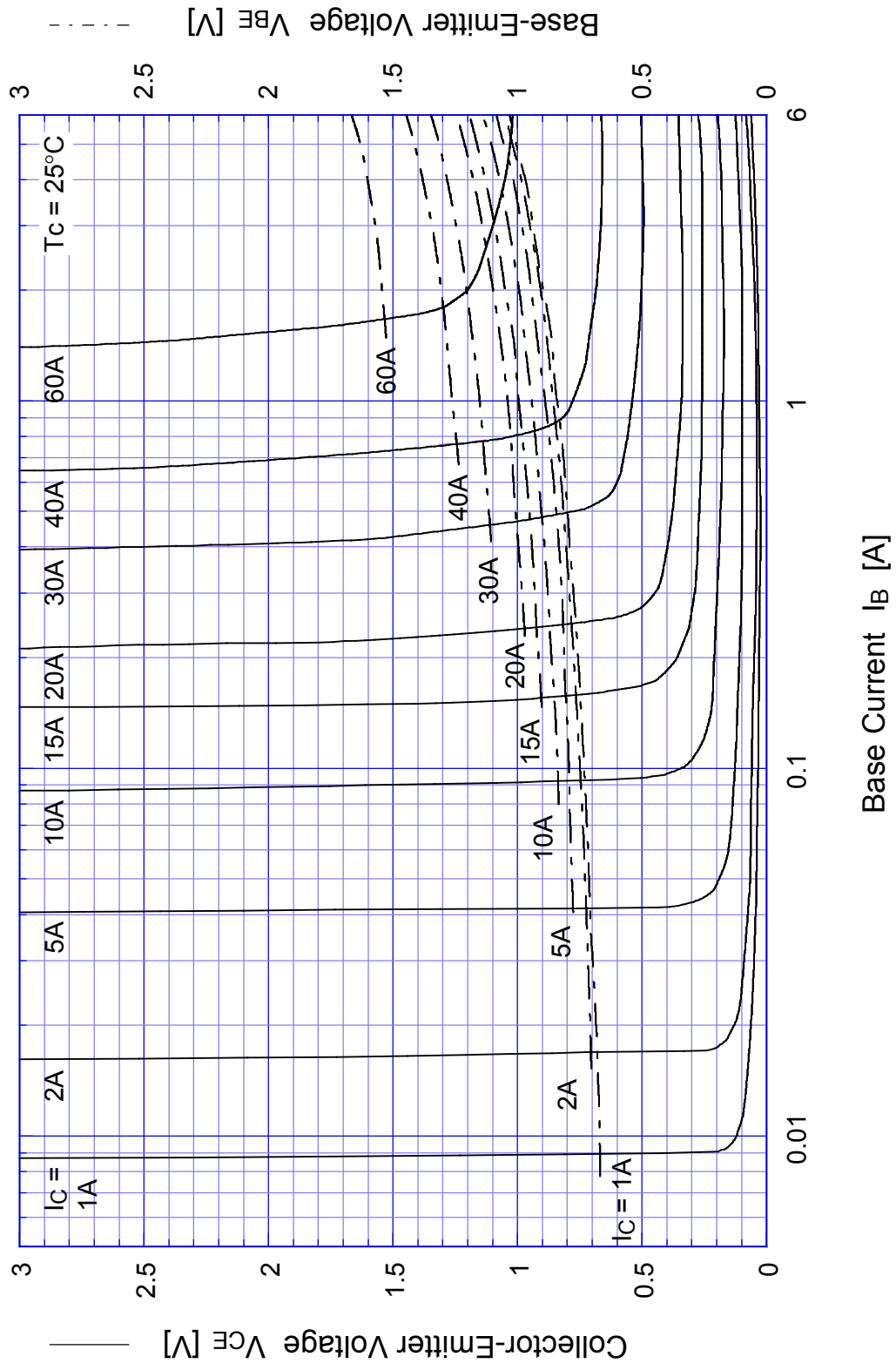
| Item | Symbol | Conditions | Rating | Unit |
|---|------------------|--|----------|------|
| Collector to Emitter Sustaining Voltage | $V_{CE(sus)}$ | $I_C = 0$ | Min 40 | V |
| Collector Cutoff Current | I_{CO} | At rated Voltage | Max 0 | mA |
| | I_{CEO} | | Max 0.1 | mA |
| Emitter Cutoff Current | I_{EO} | At rated Voltage | Max 0 | mA |
| DC Current Gain | h_{FE} | $V_{CE} = 2V, I_C = 15A$ | Min 100 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 15A, I_B = 1.5A$ | Max 0.3 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 15A, I_B = 1.5A$ | Max 1.3 | V |
| Thermal Resistance | $r_{\theta j-c}$ | Junction to case | Max 2.78 | °C/W |
| Transition Frequency | f_T | $V_{CE} = 10V, I_C = 3A$ | TYP 50 | MHz |
| Turn on Time | t_{on} | | Max 0.3 | μs |
| Storage Time | t_s | $I_C = 15A, I_B = 1.5A, R_{\theta j-c} = 2.78^\circ\text{C/W}$ | Max 1.6 | μs |
| Fall Time | t_f | | Max 0.5 | μs |

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$h_{FE} - I_C$

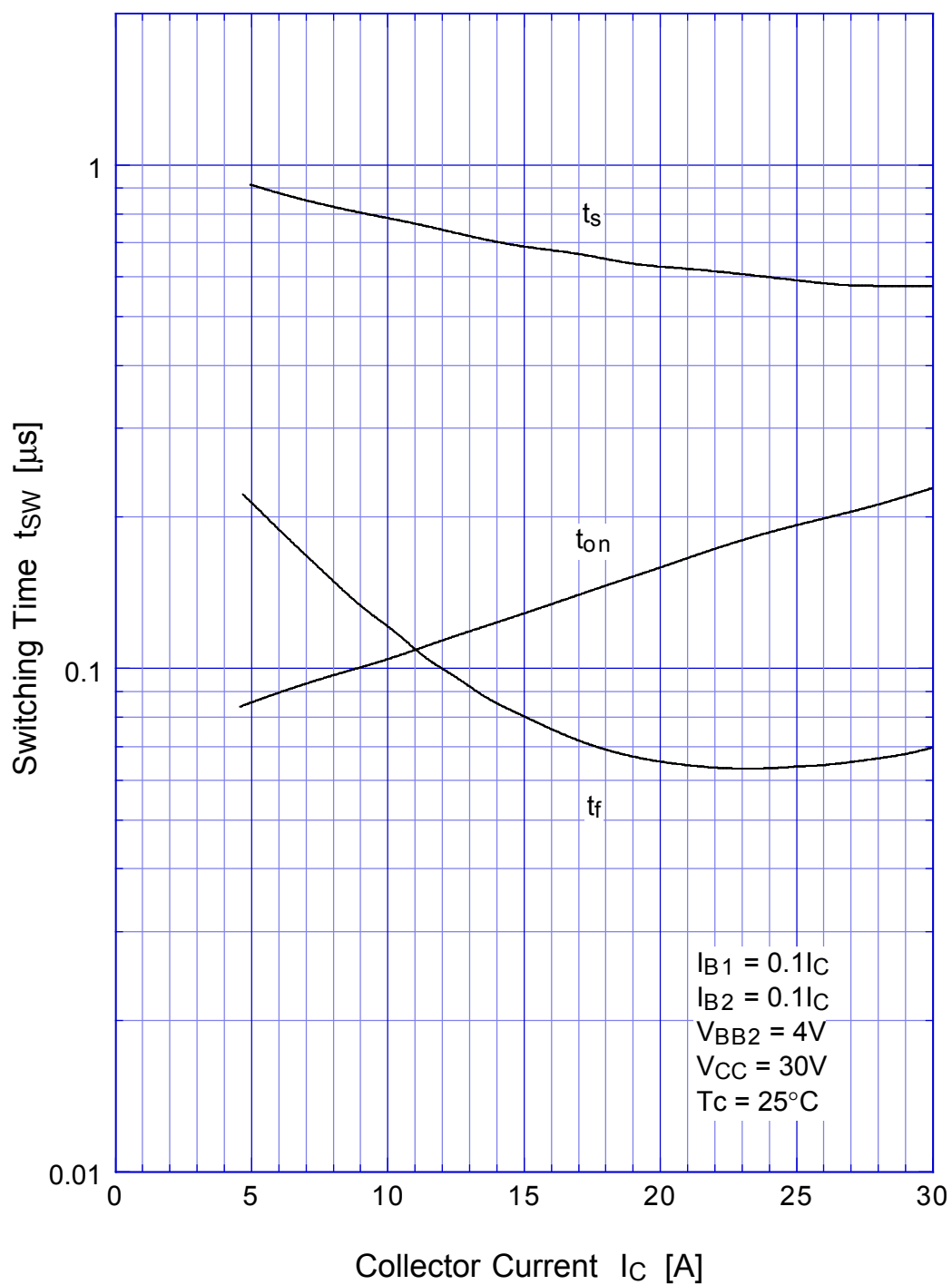


2SC4876 Saturation Voltage

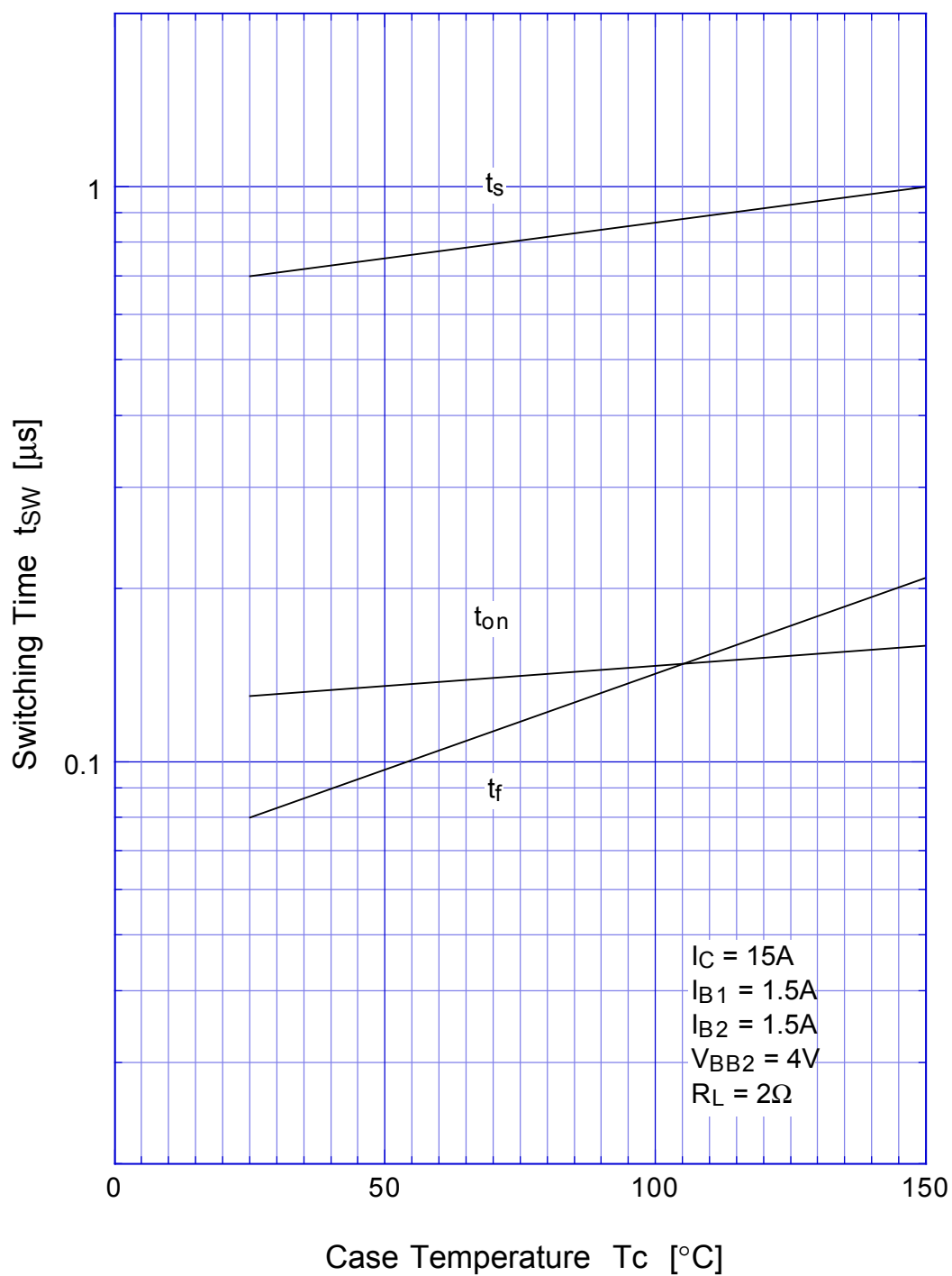


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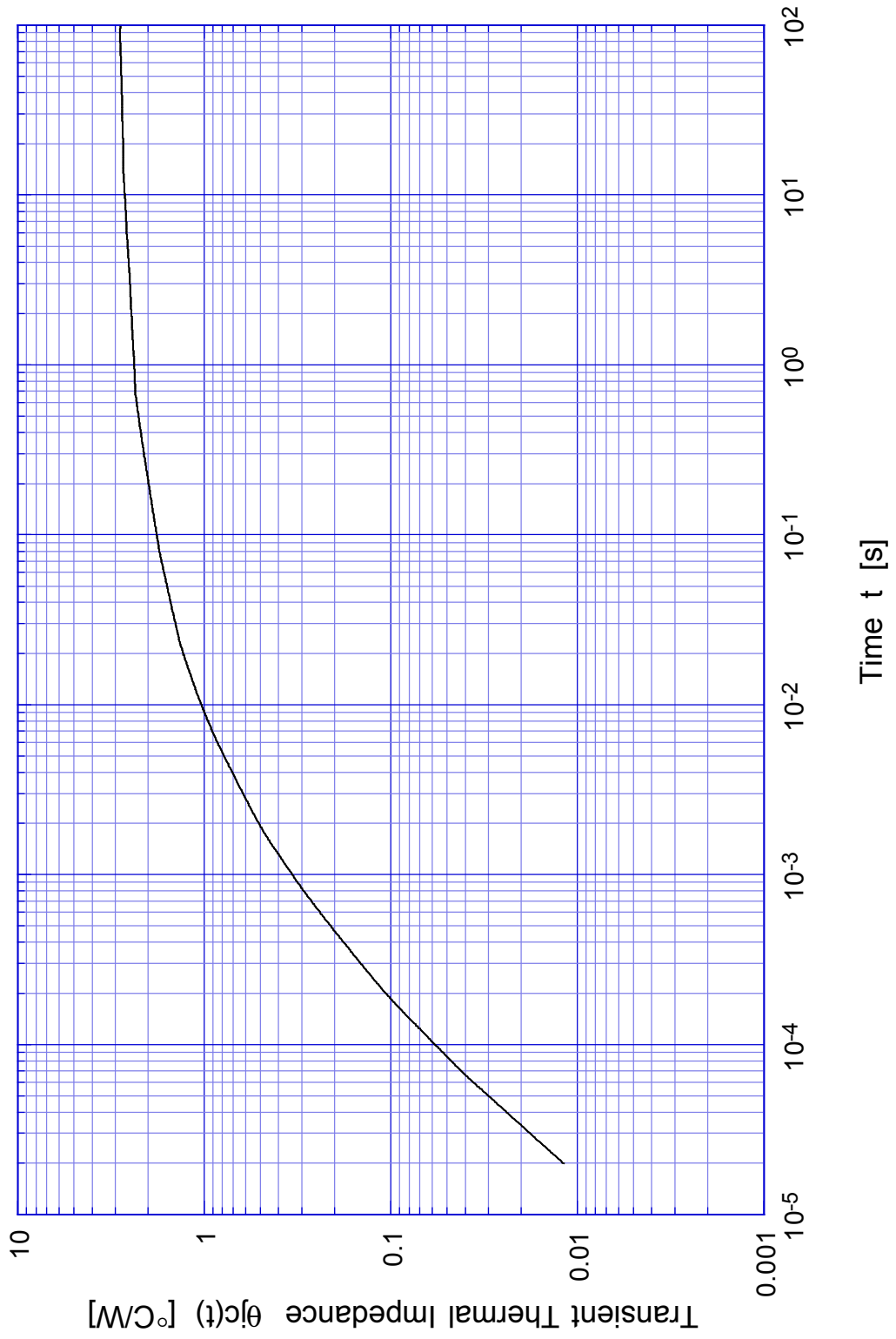
Switching Time - I_C



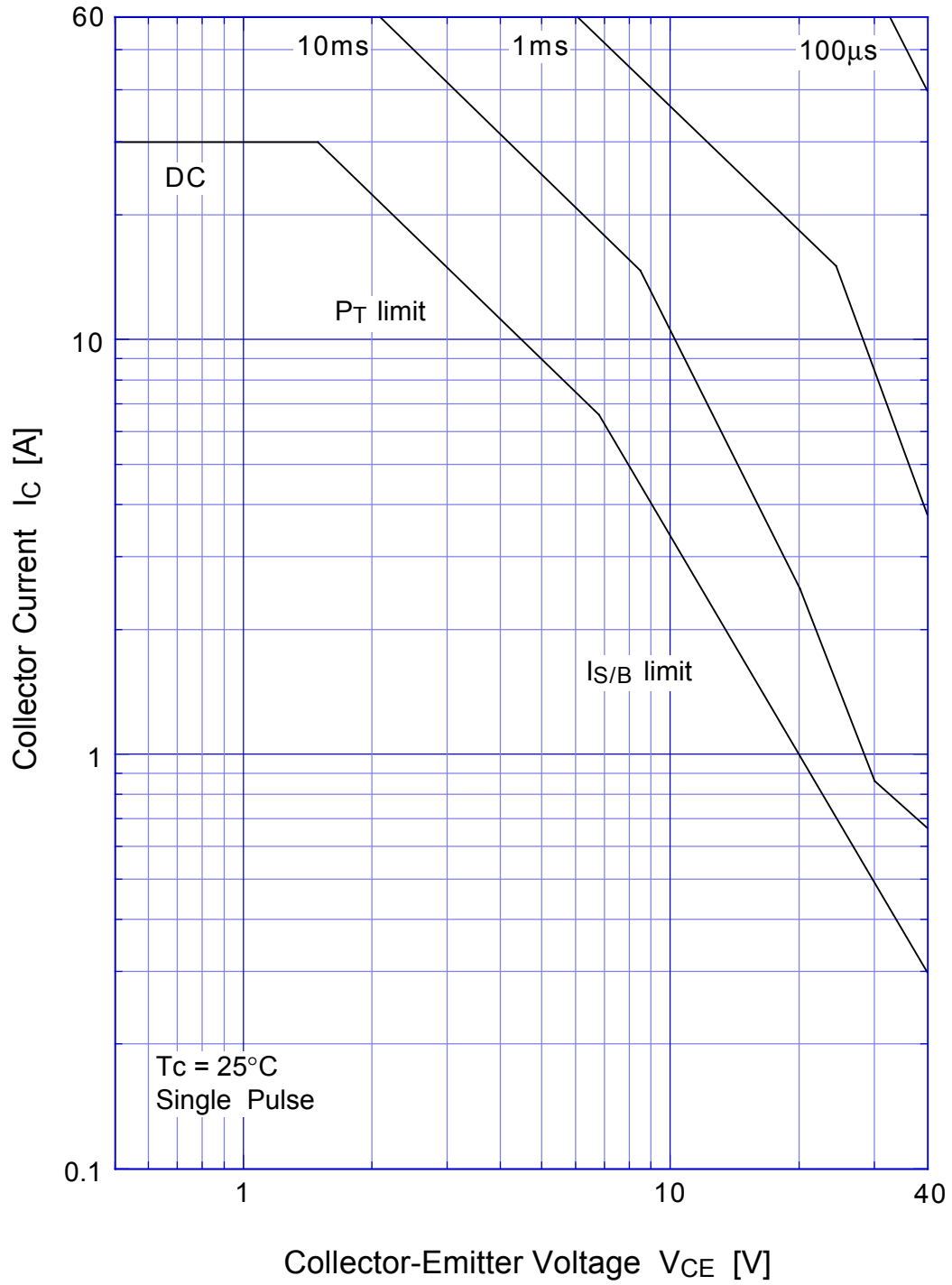
2SC4876 Switching Time - Tc



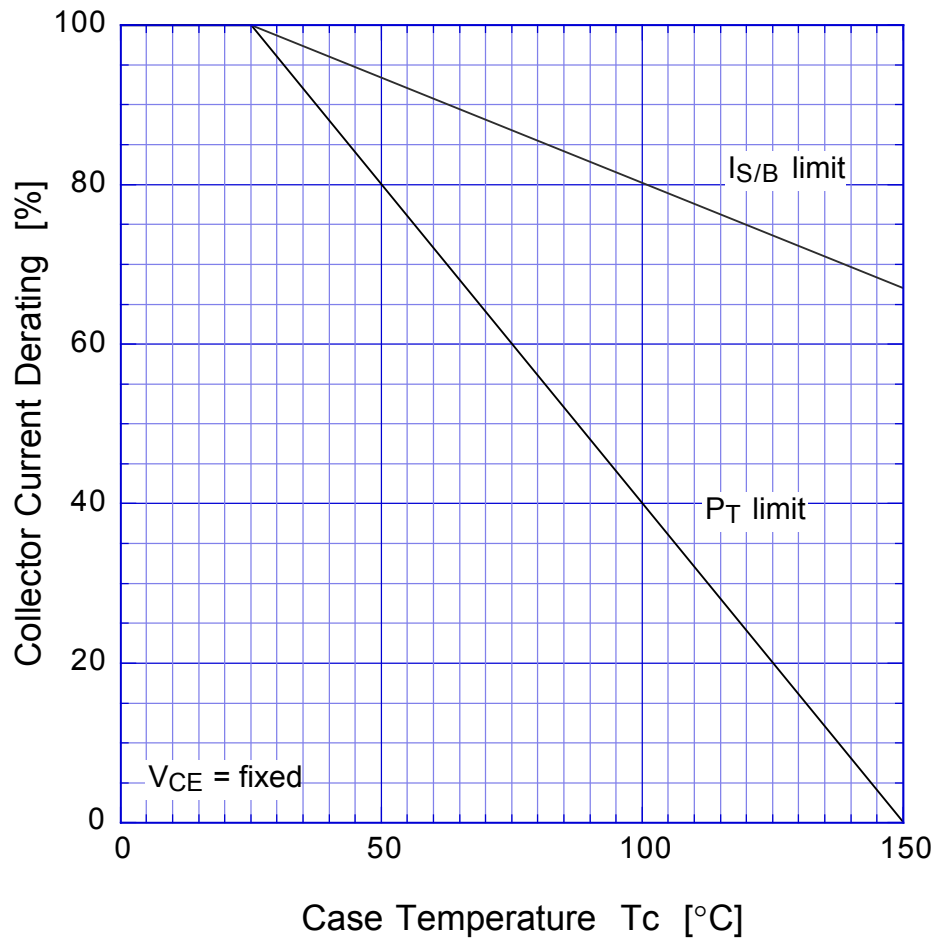
2SC4876 Transient Thermal Impedance



2SC4876 Forward Bias SOA



2SC4876 Collector Current Derating



2SC4876

Reverse Bias SOA

