

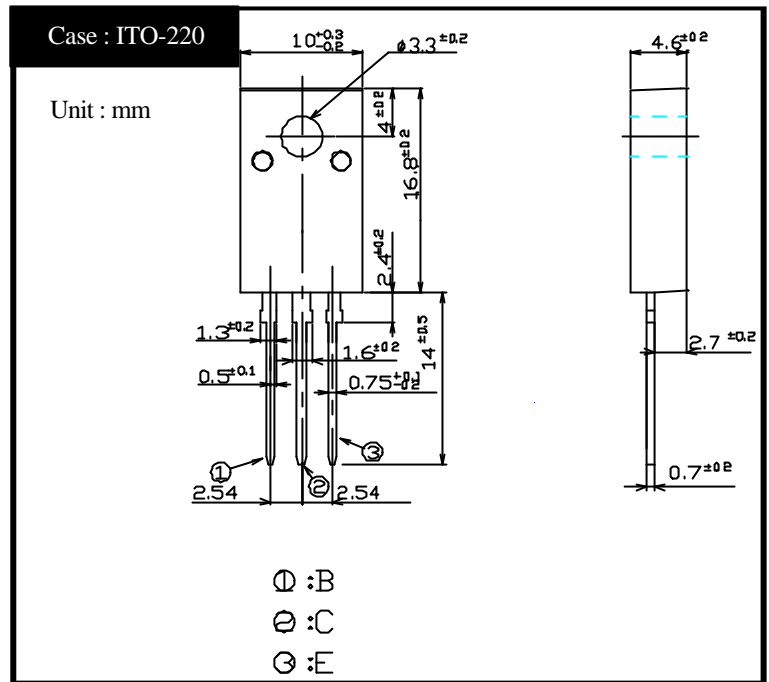
SHINDENGEN

Switching Power Transistor

2SC4940

4A NPN

OUTLINE DIMENSIONS



RATINGS

Absolute Maximum Ratings

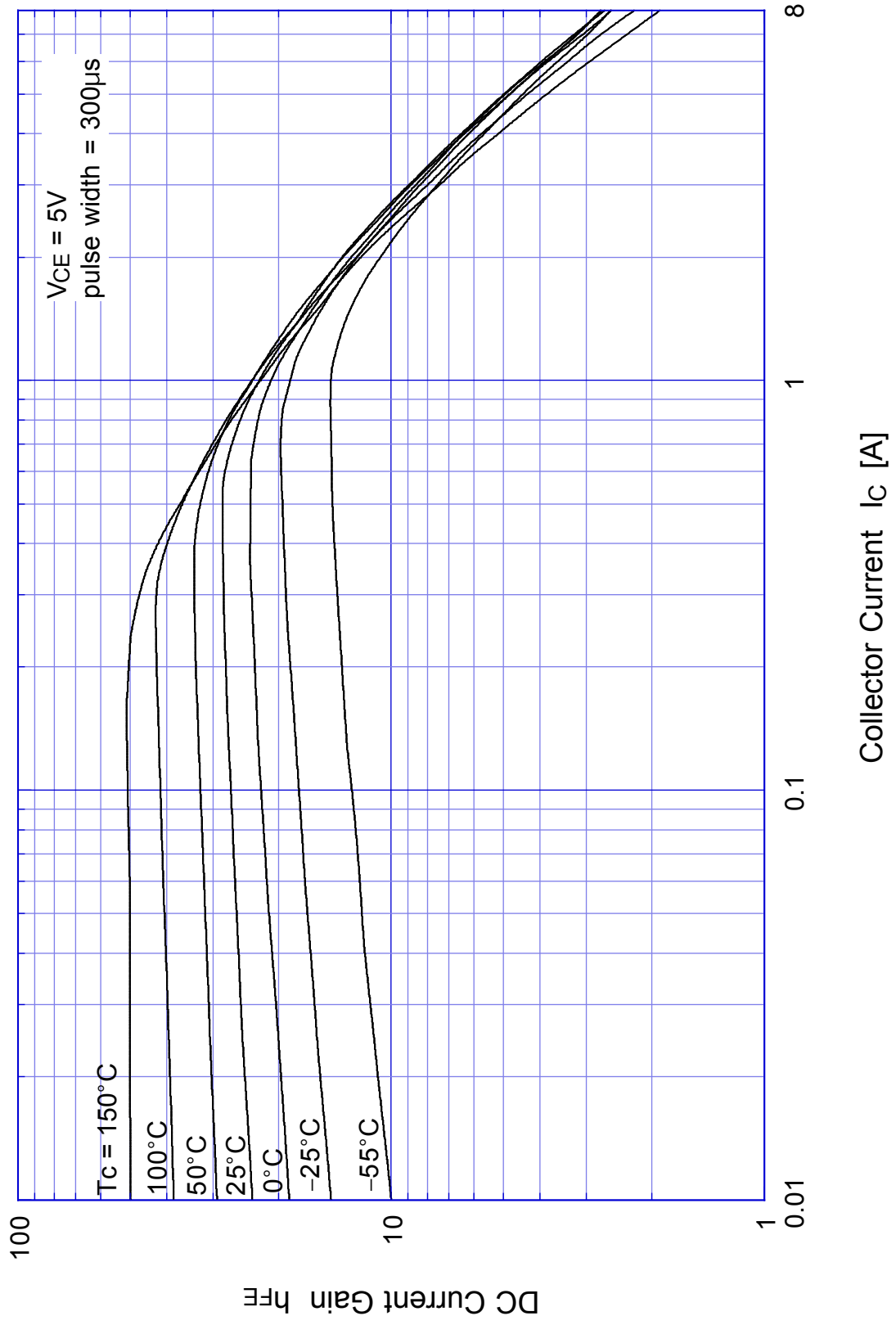
| Item | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|--------------------------------|-----------|------|
| Storage Temperature | T _{stg} | | -55 ~ 150 | |
| Junction Temperature | T _j | | 150 | |
| Collector to Base Voltage | V _{CB0} | | 1200 | V |
| Collector to Emitter Voltage | V _{CE0} | | 550 | V |
| Emitter to Base Voltage | V _{EBO} | | 7 | V |
| Collector Current DC | I _C | | 4 | A |
| Collector Current Peak | I _{CP} | | 8 | |
| Base Current DC | I _B | | 2 | A |
| Base Current Peak | I _{BP} | | 4 | |
| Total Transistor Dissipation | P _T | | 30 | W |
| Dielectric Strength | V _{dis} | Terminals to casd, AC 1 minute | 2 | kV |
| Mounting Torque | TOR | (Recommended torque) | 0.5(0.3) | N·m |

Electrical Characteristics (T_c=25 °C)

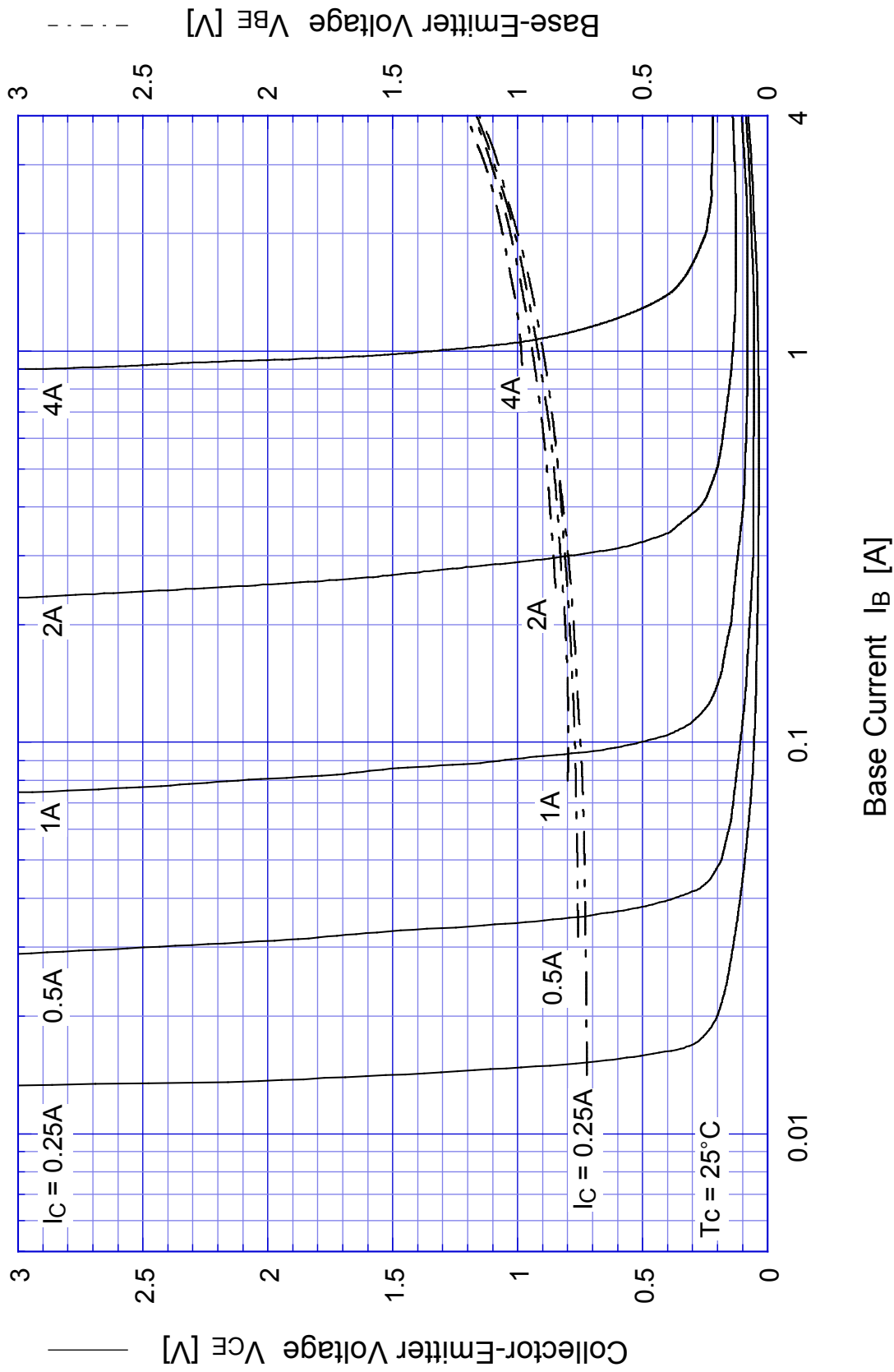
| Item | Symbol | Conditions | Ratings | Unit |
|---|-----------------------|--|----------|------|
| Collector to Emitter Sustaining Voltage | V _{CE0(sus)} | I _C = 0.1A | Min 550 | V |
| Collector Cutoff Current | I _{CB0} | rated V _{CB0} | Max 0.1 | mA |
| | | rated V _{CE0} | Max 0.1 | |
| Emitter Cutoff Current | I _{EBO} | rated V _{EBO} | Max 0.1 | mA |
| DC Current Gain | h _{FE} | V _{CE} = 5V, I _C = 2A | Min 10 | |
| | | V _{CE} = 5V, I _C = 1mA | Min 10 | |
| Collector to Emitter Saturation Voltage | V _{CE(sat)} | I _C = 2A | Max 1.0 | V |
| Base to Emitter Saturation Voltage | V _{BE(sat)} | I _B = 0.4A | Max 1.5 | V |
| Thermal Resistance | θ _{JC} | Junction to case | Max 4.16 | /W |
| Transition Frequency | f _T | V _{CE} = 10V, I _C = 0.4A | TYP 10 | MHz |
| Turn on Time | t _{on} | I _C = 2A | Max 0.8 | μs |
| Storage Time | t _s | I _{B1} = 0.4A, I _{B2} = 0.8A | Max 3.0 | |
| Fall Time | t _f | R _L = 75 Ω, V _{BB2} = 4V | Max 0.3 | |

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$h_{FE} - I_C$

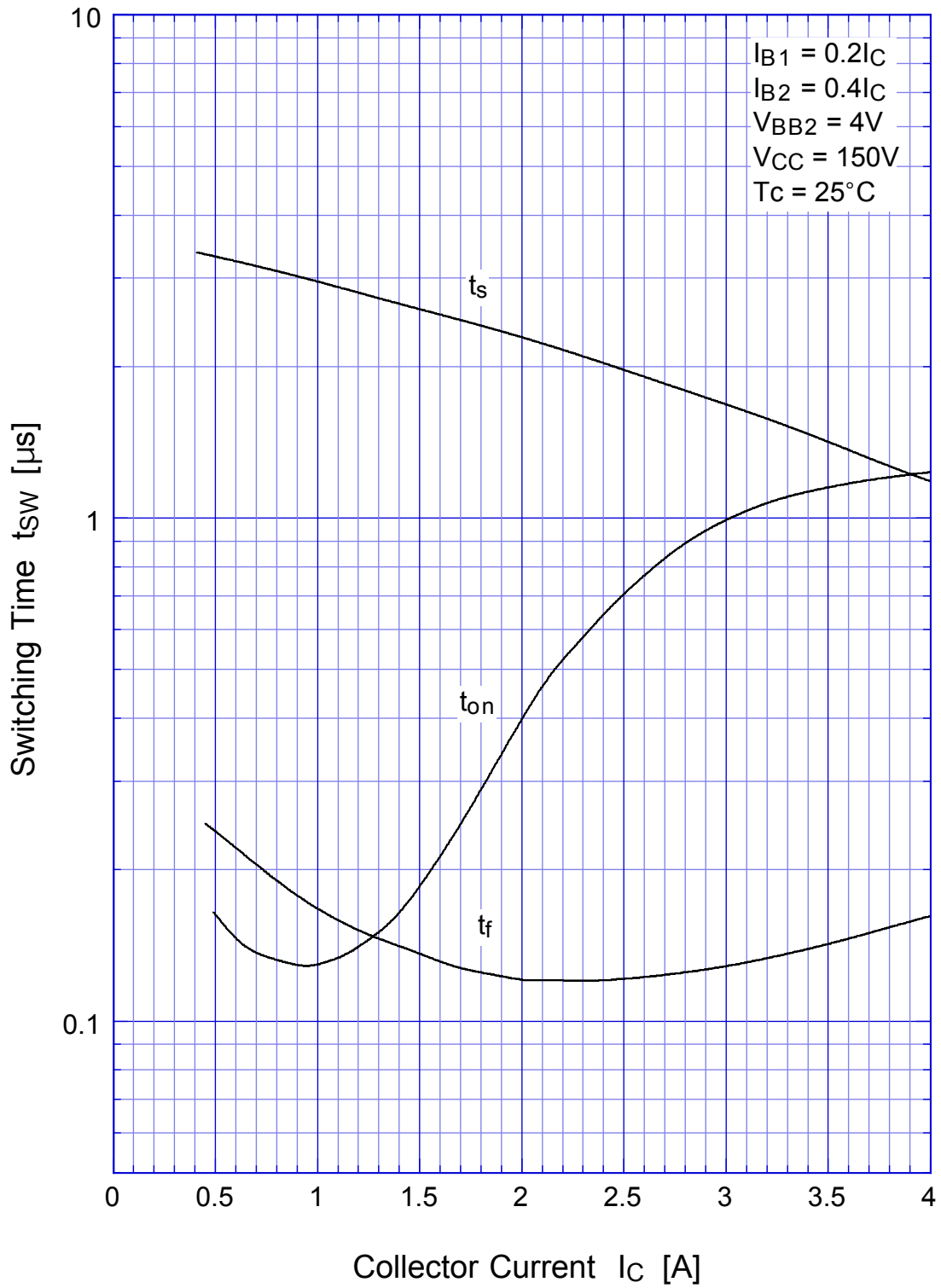


2SC4940 Saturation Voltage



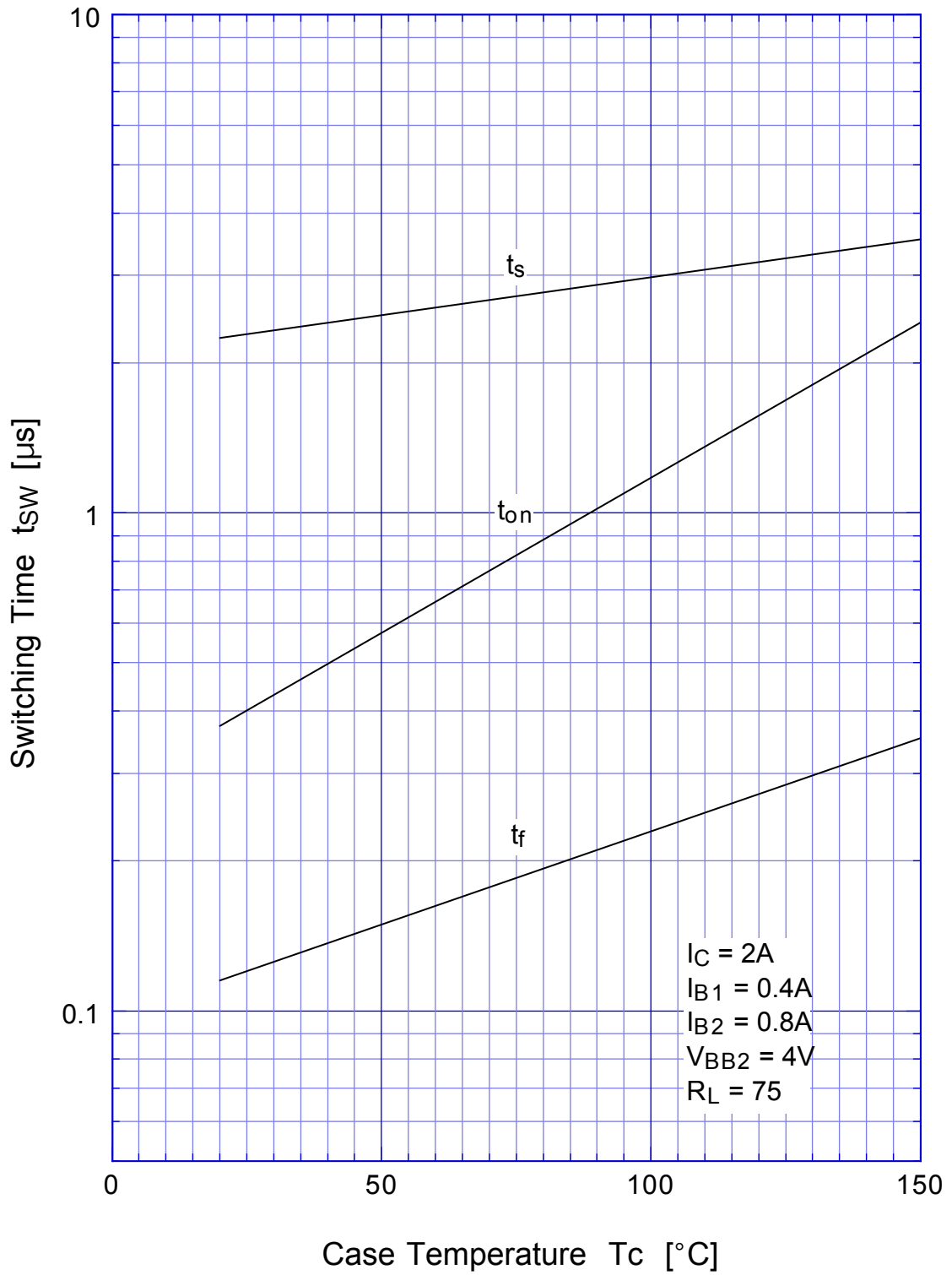
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Switching Time - I_C



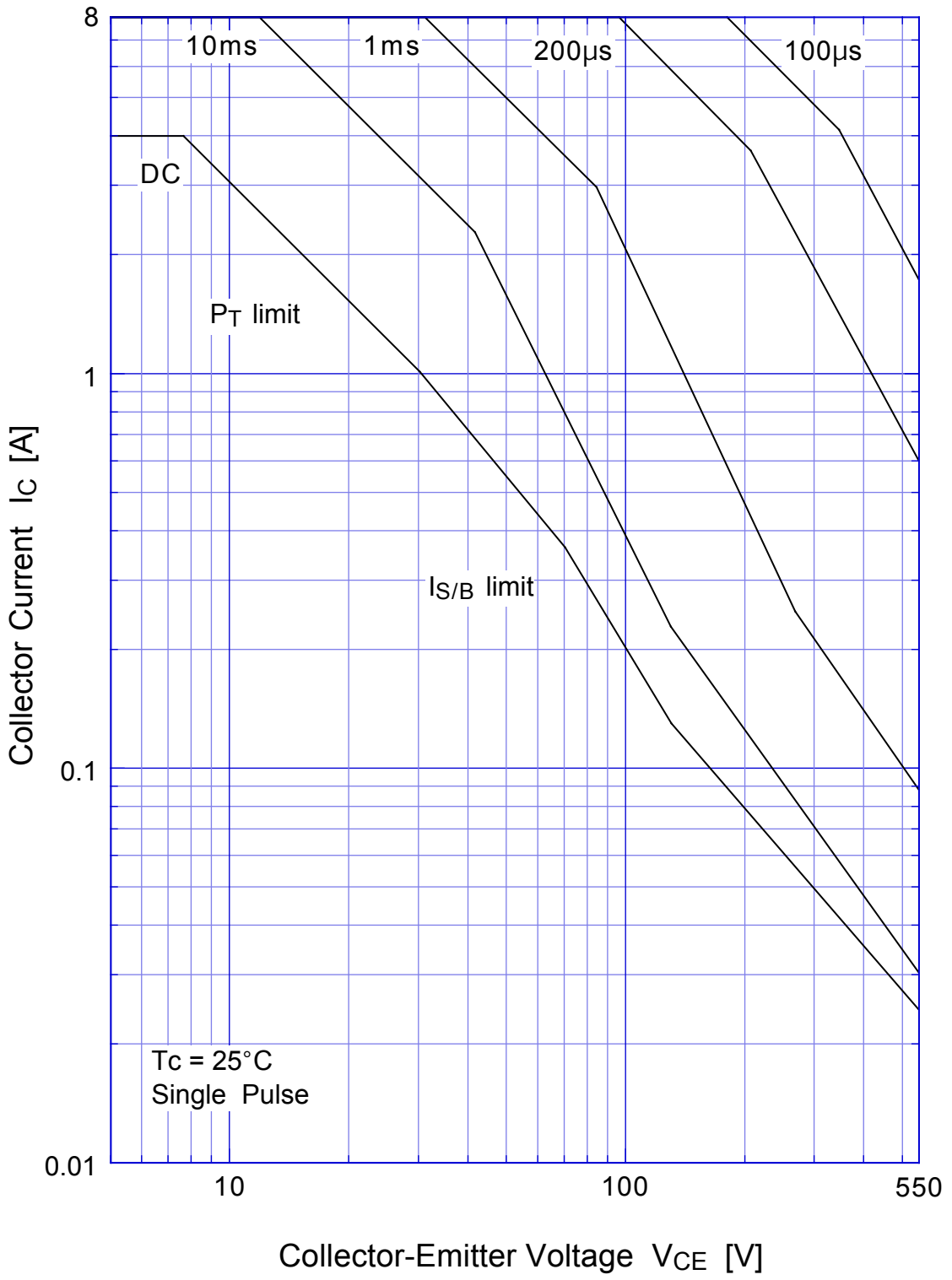
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Switching Time - Tc

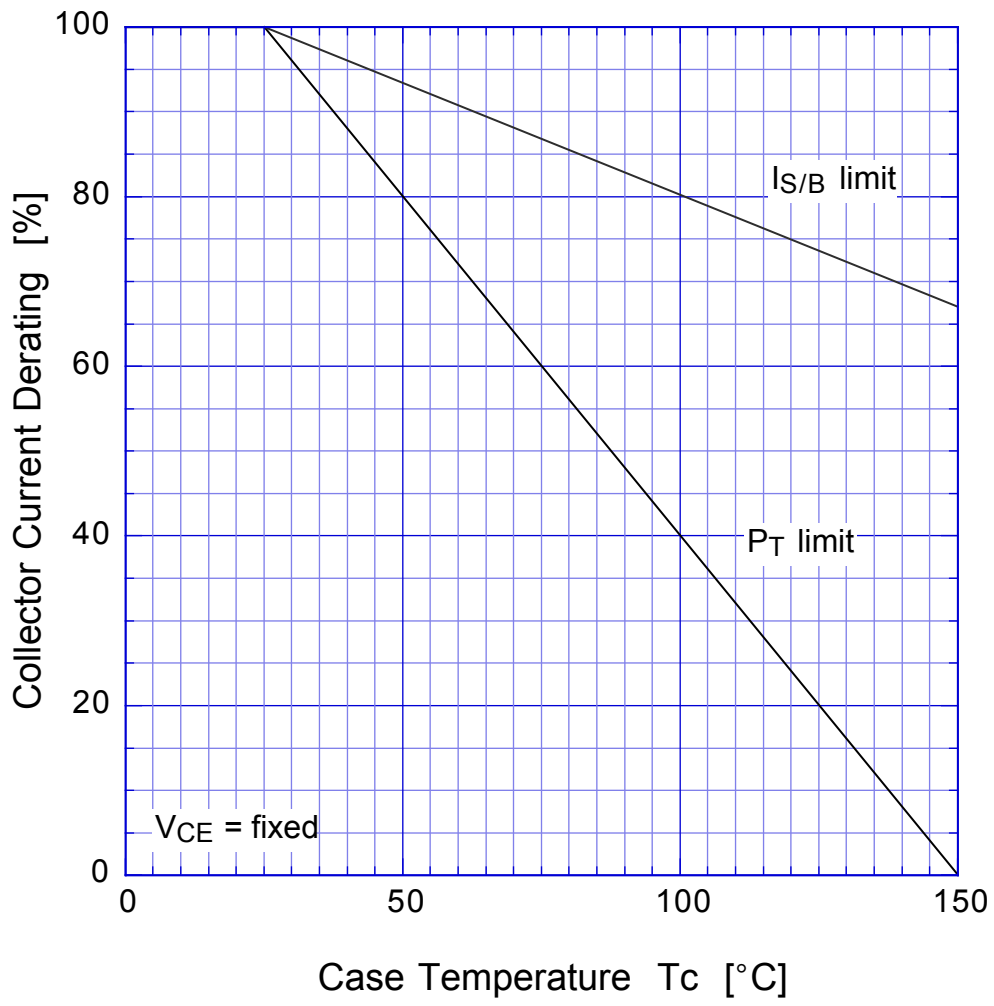


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Forward Bias SOA

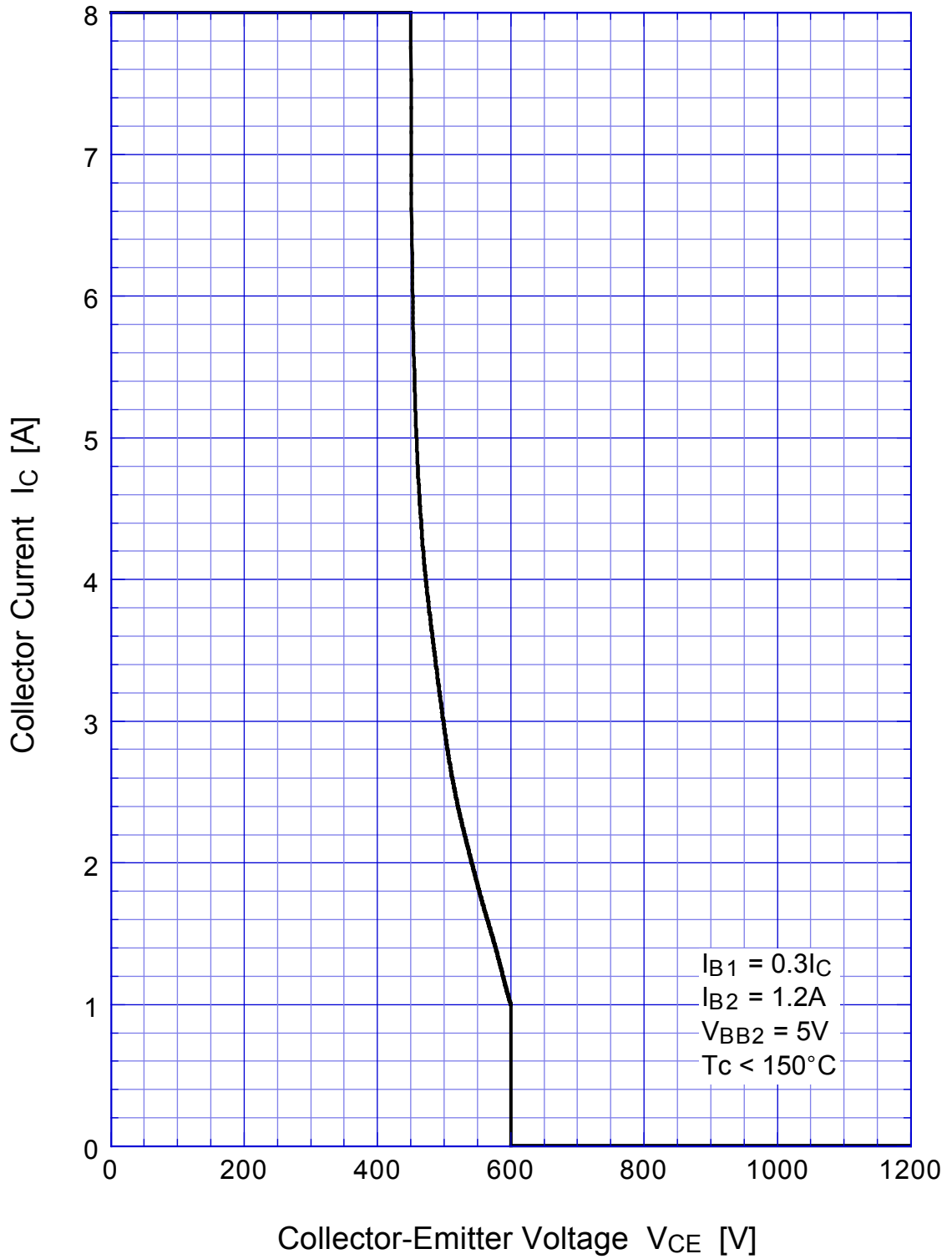


2SC4940 Collector Current Derating



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Reverse Bias SOA



2SC4940 Transient Thermal Impedance

