

SHINDENGEN

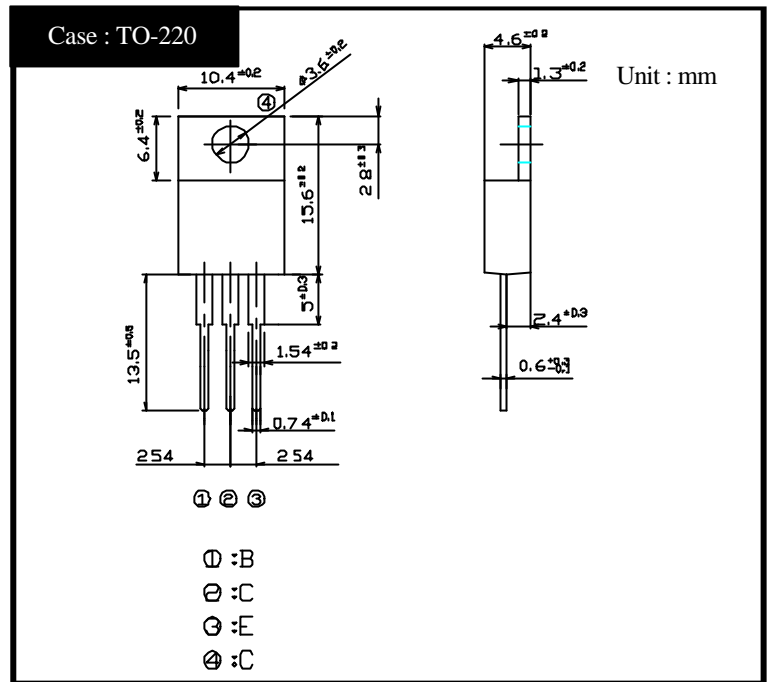
Switching Power Transistor

FX Series

2SC4055
(T8V45FX)

8A NPN

OUTLINE DIMENSIONS



RATINGS

Absolute Maximum Ratings

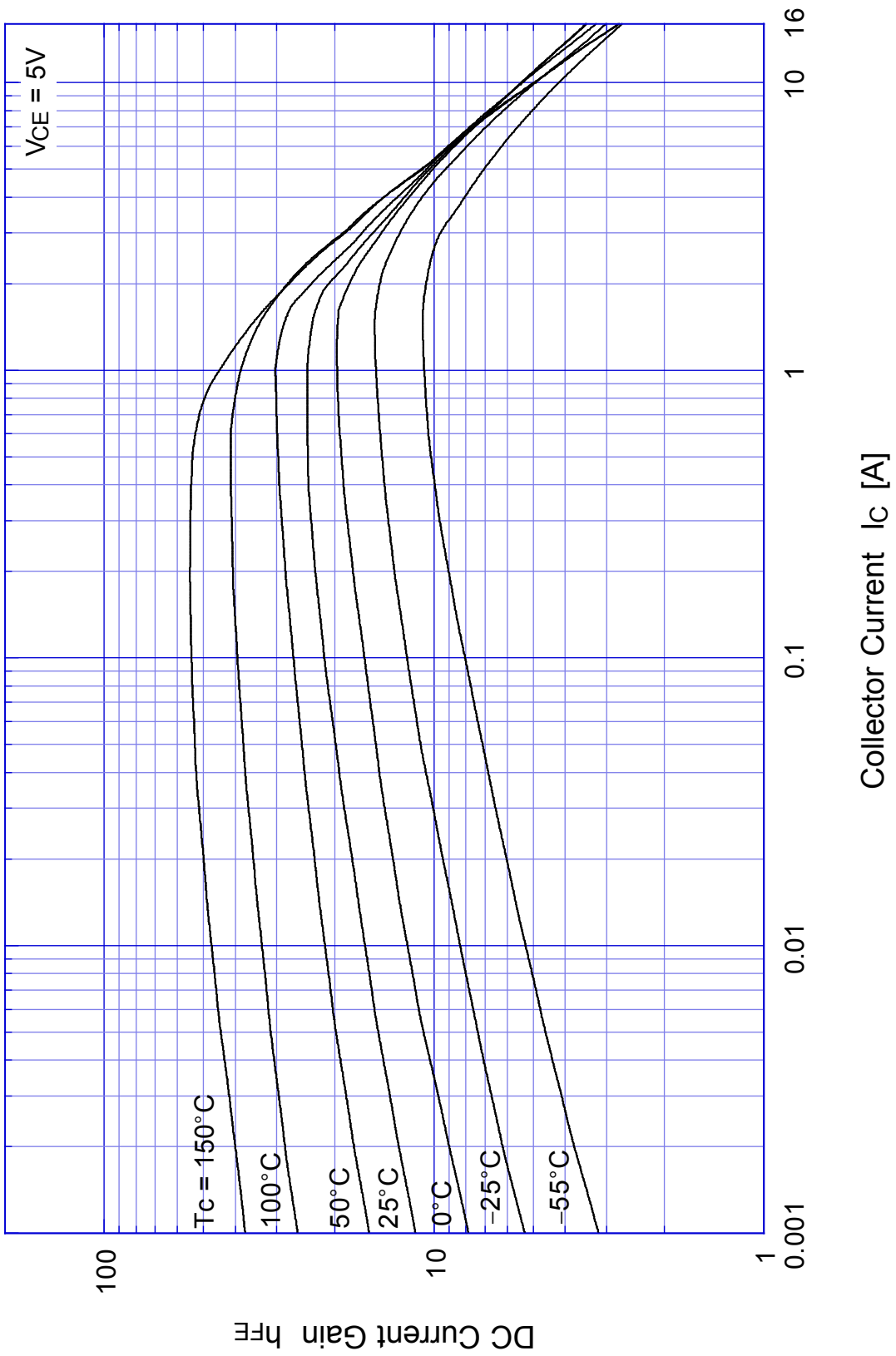
| Item | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|----------------------|-----------|------|
| Storage Temperature | T _{stg} | | -55 ~ 150 | |
| Junction Temperature | T _j | | 150 | |
| Collector to Base Voltage | V _{CBO} | | 600 | V |
| Collector to Emitter Voltage | V _{CEO} | | 450 | V |
| | V _{CEX} | V _{EB} = 5V | 600 | |
| Emitter to Base Voltage | V _{EBO} | | 7 | V |
| Collector Current DC | I _C | | 8 | A |
| Collector Current Peak | I _{CP} | | 16 | |
| Base Current DC | I _B | | 4 | A |
| Base Current Peak | I _{BP} | | 8 | |
| Total Transistor Dissipation | P _T | T _C = 25 | 60 | W |
| Mounting Torque | TOR | | 0.5 | N·m |

Electrical Characteristics (T_c=25)

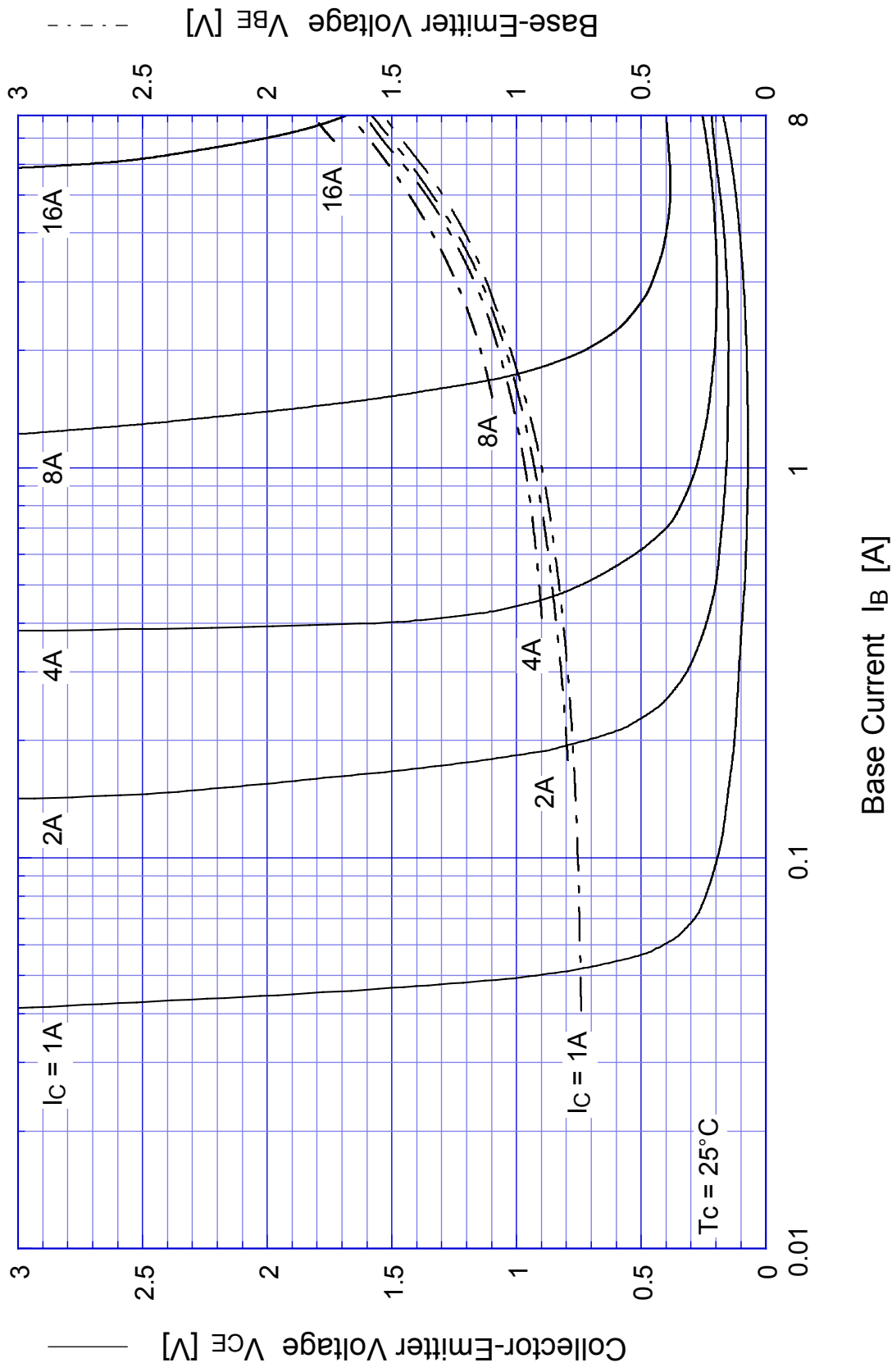
| Item | Symbol | Conditions | Ratings | Unit |
|---|-----------------------|--|----------|------|
| Collector to Emitter Sustaining Voltage | V _{CEO(sus)} | I _C = 0.2A | Min 450 | V |
| Collector Cutoff Current | I _{CB0} | At rated Voltage | Max 0.1 | mA |
| | I _{CEO} | | Max 0.1 | |
| Emitter Cutoff Current | I _{EBO} | At rated Voltage | Max 0.1 | mA |
| DC Current Gain | h _{FE} | V _{CE} = 5V, I _C = 4A | Min 10 | |
| | h _{FEL} | V _{CE} = 5V, I _C = 1mA | Min 5 | |
| Collector to Emitter Saturation Voltage | V _{CE(sat)} | I _C = 4A | Max 1.0 | V |
| Base to Emitter Saturation Voltage | V _{BE(sat)} | I _B = 0.8A | Max 1.5 | V |
| Thermal Resistance | θ _{JC} | Junction to case | Max 2.08 | /W |
| Transition Frequency | f _T | V _{CE} = 10V, I _C = 0.8A | STD 20 | MHz |
| Turn on Time | t _{on} | I _C = 4A | Max 0.5 | μs |
| Storage Time | t _s | I _{B1} = 0.8A, I _{B2} = 1.6A | Max 2.0 | |
| Fall Time | t _f | R _L = 37.5 Ω, V _{BB2} = 4V | Max 0.2 | |

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$h_{FE} - I_C$

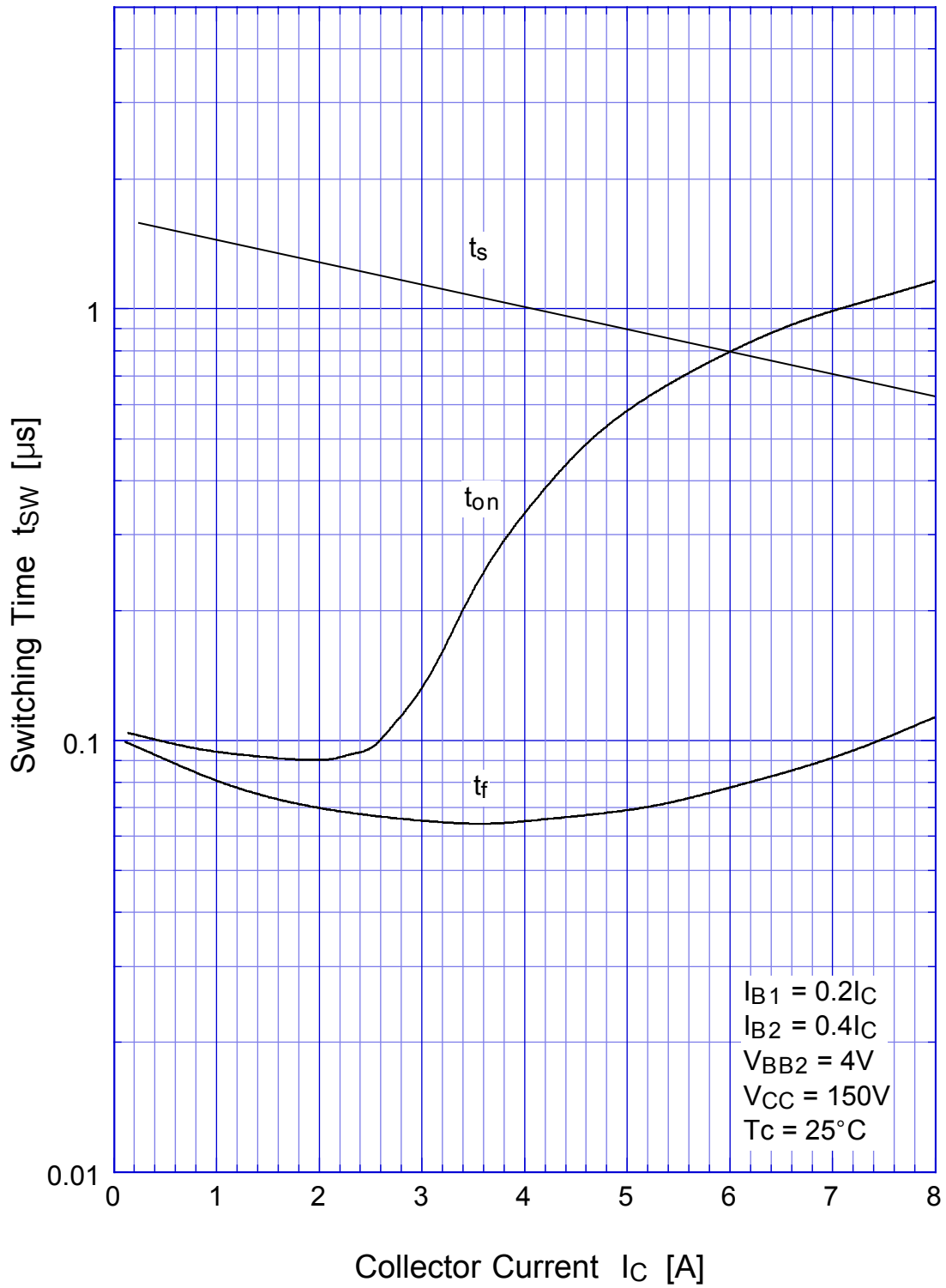


2SC4055 Saturation Voltage

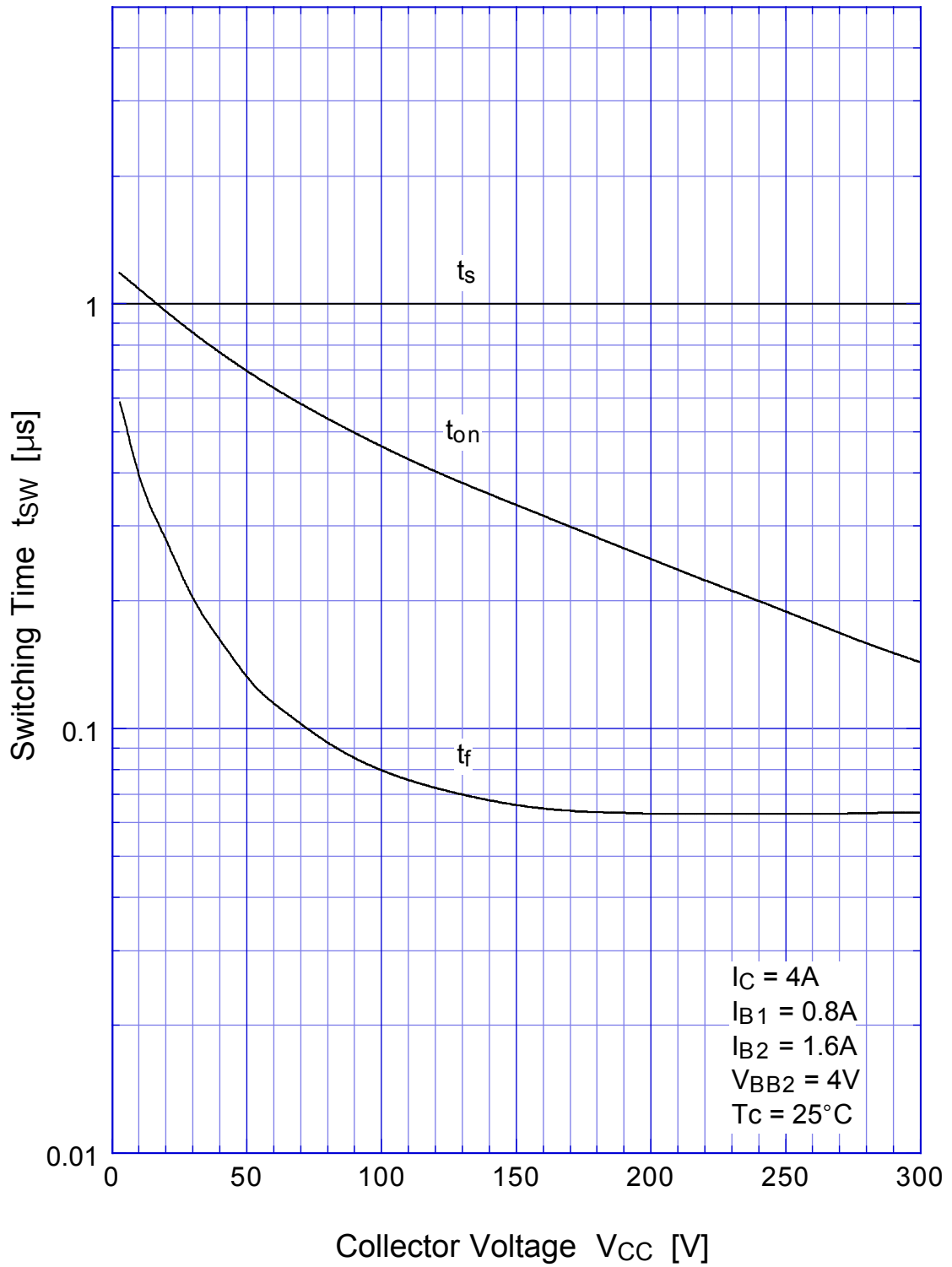


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Switching Time - I_C

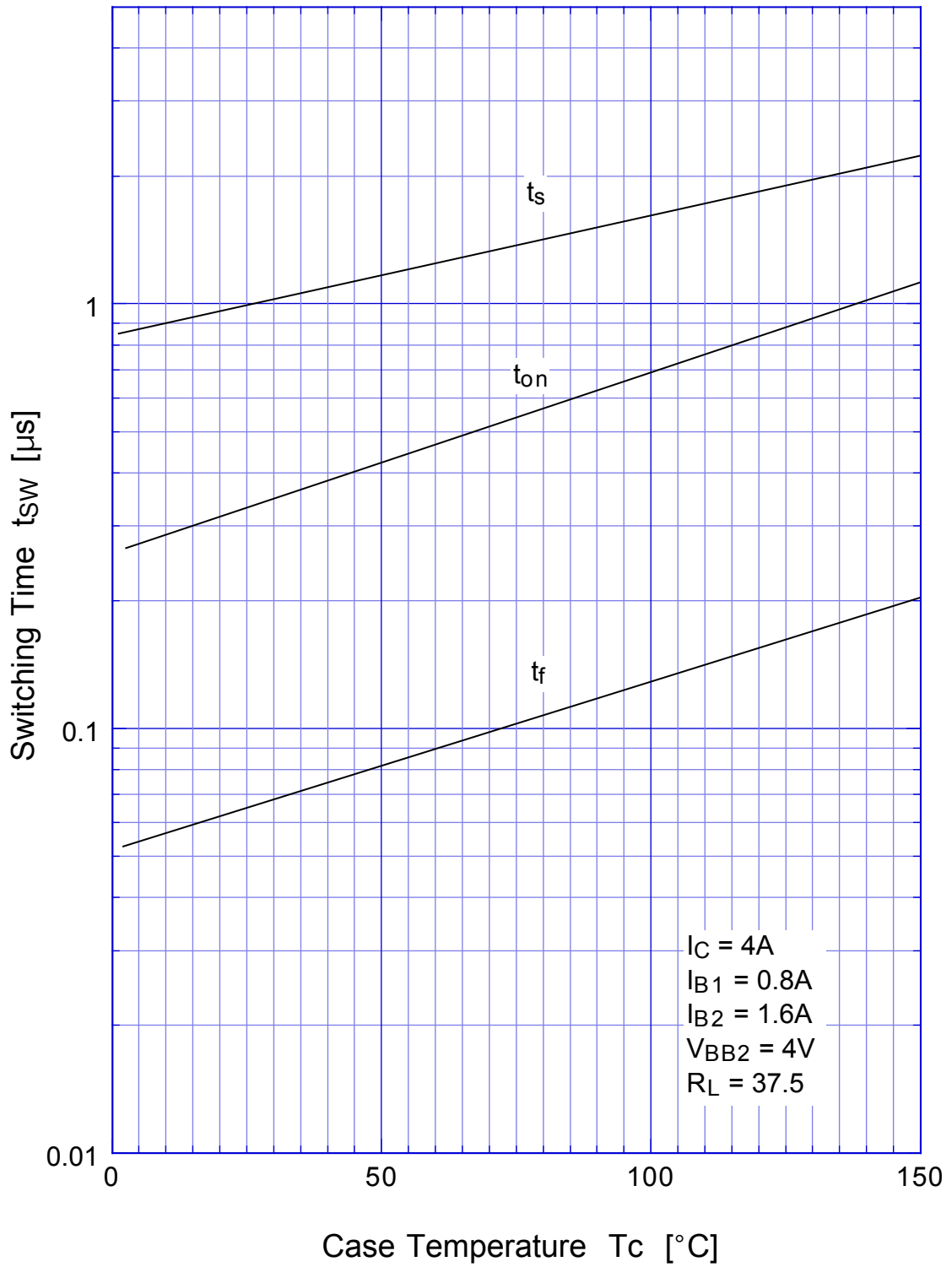


2SC4055 Switching Time - V_{CC}

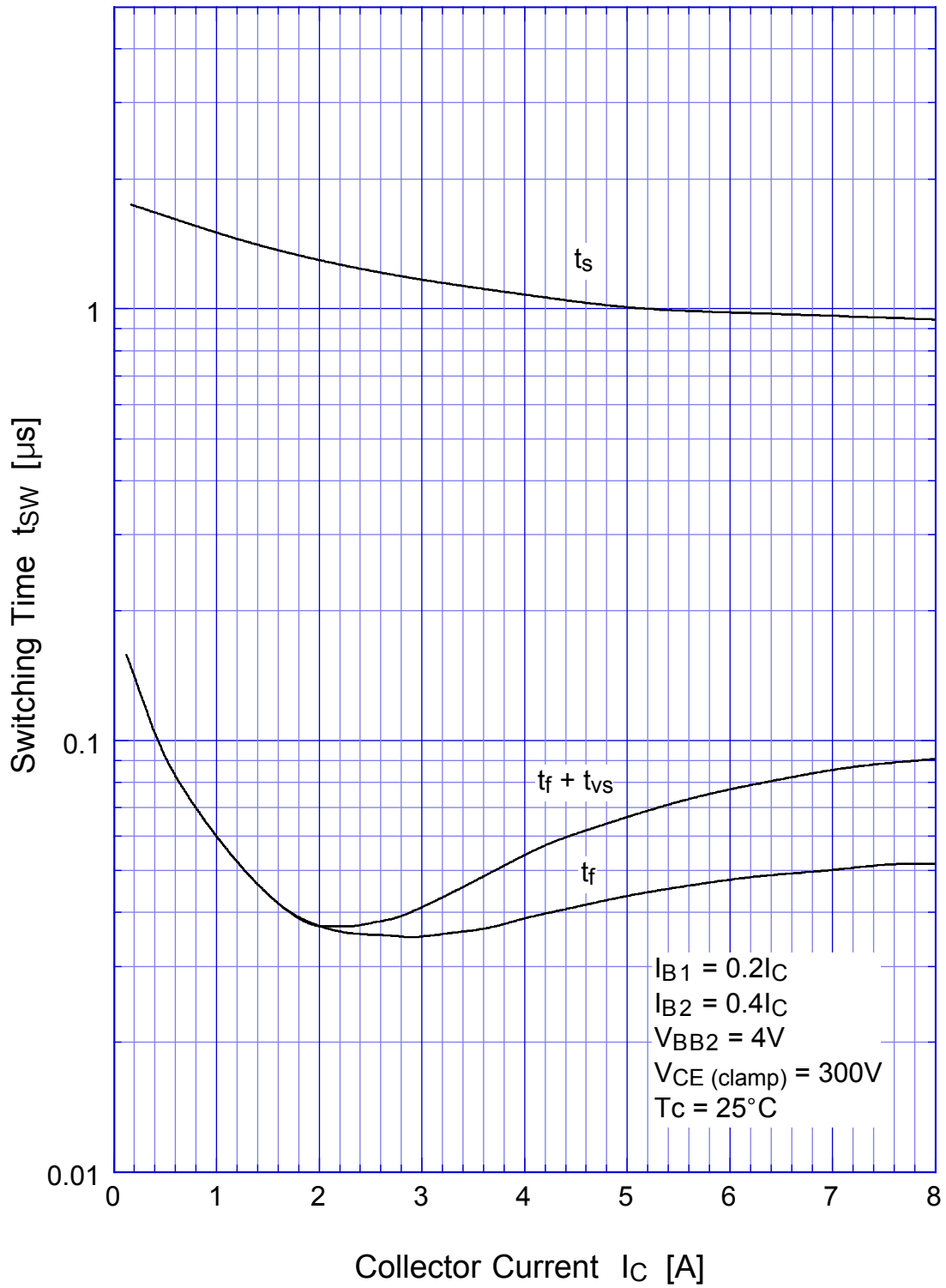


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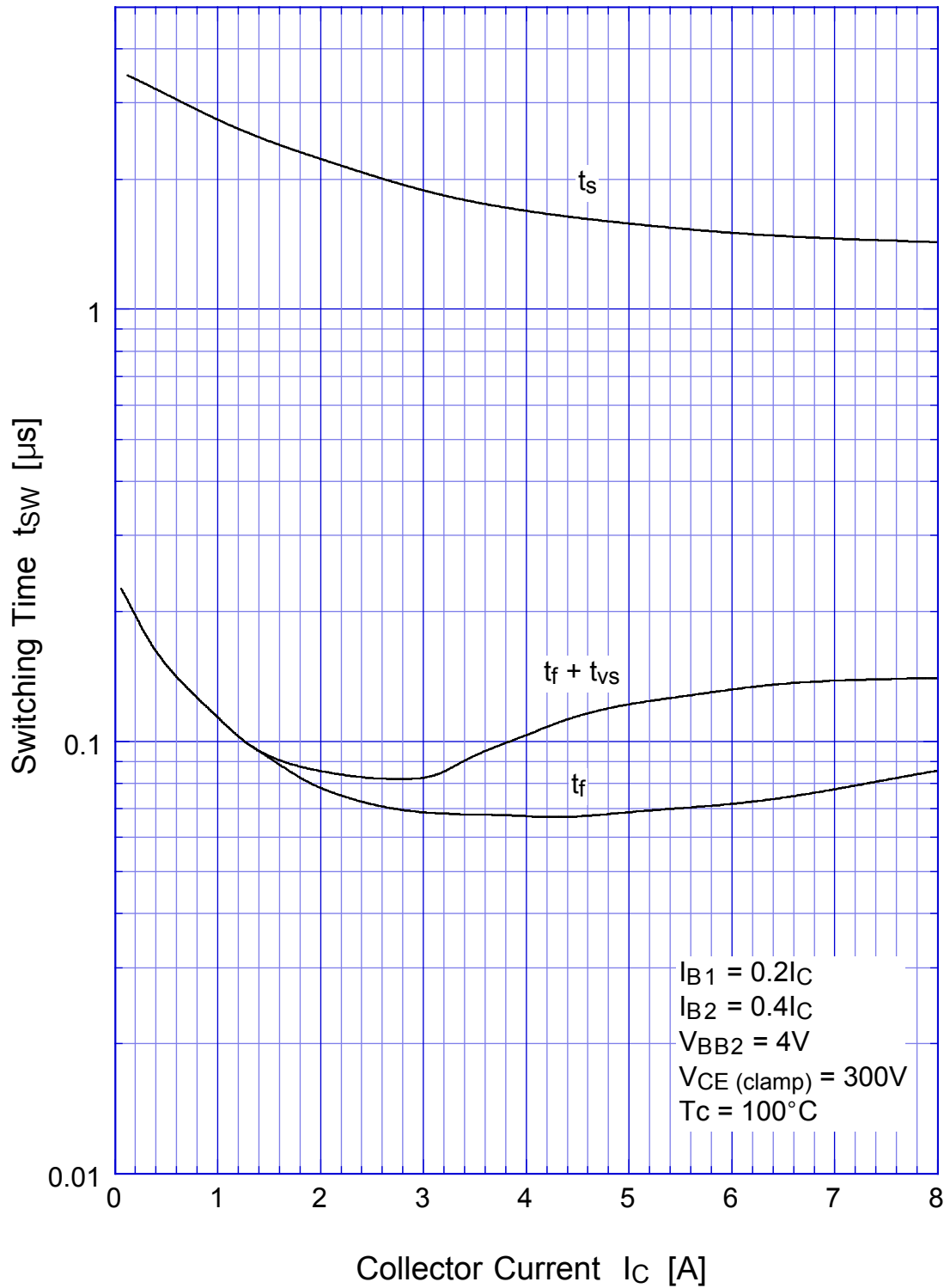
Switching Time - Tc



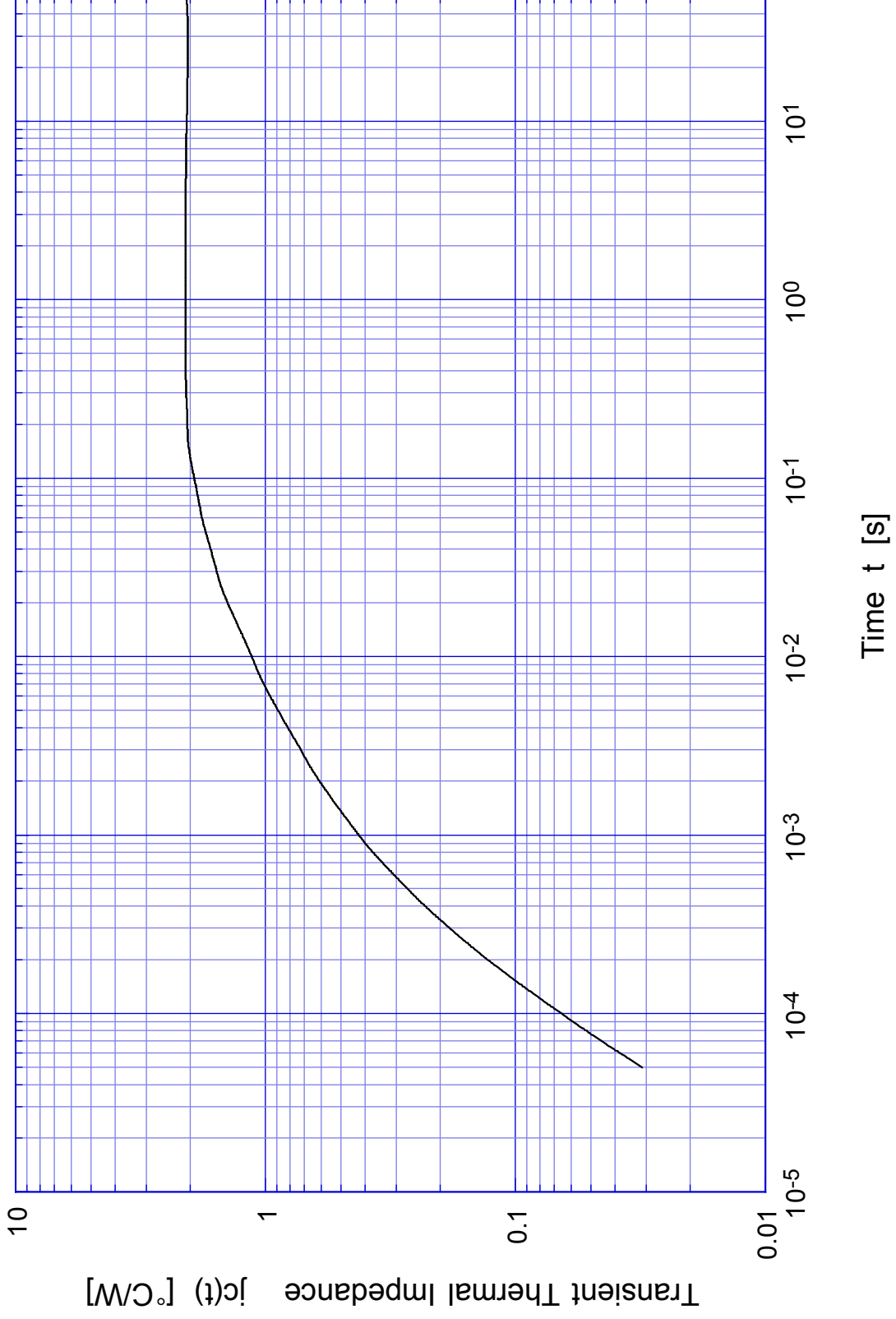
2SC4055 L-Load Switching Time - I_C



2SC4055 L-Load Switching Time - I_C (At High Temperature)

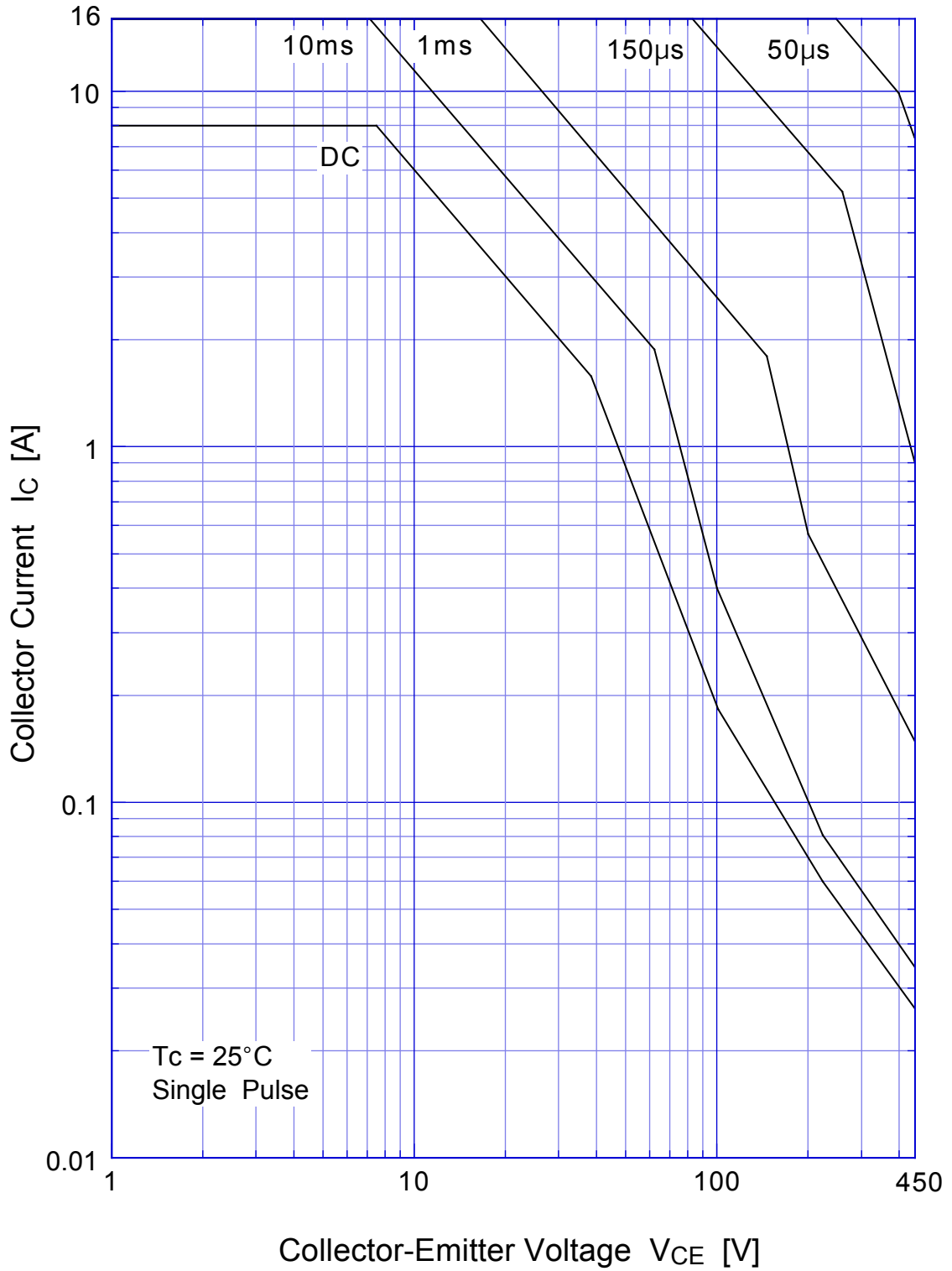


2SC4055 Transient Thermal Impedance



2SC4055

Forward Bias SOA



2SC4055 Collector Current Derating



2SC4055

Reverse Bias SOA

