

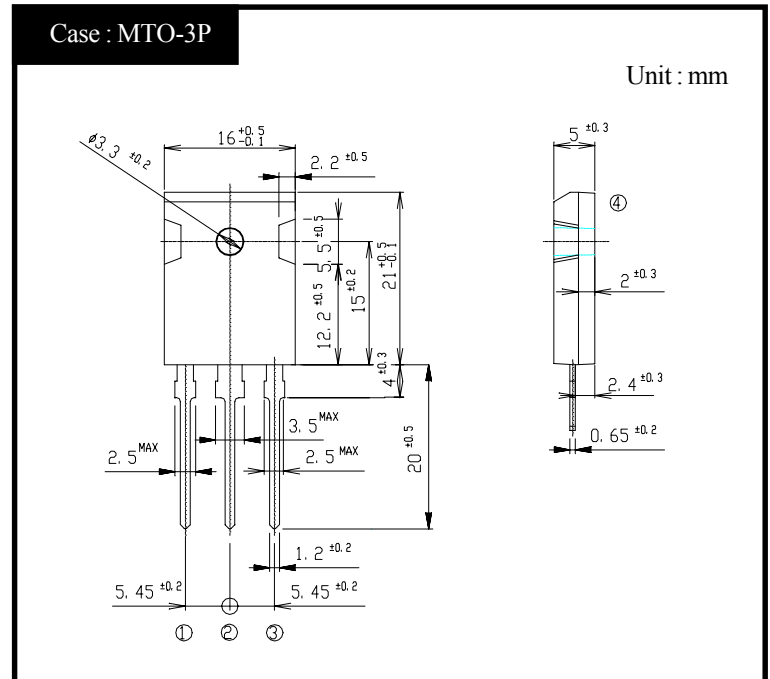
# SHINDENGEN

## Darlington Transistor

**2SD1026**  
**(T15L10)**

**15A NPN**

### OUTLINE DIMENSIONS



### RATINGS

#### ● Absolute Maximum Ratings

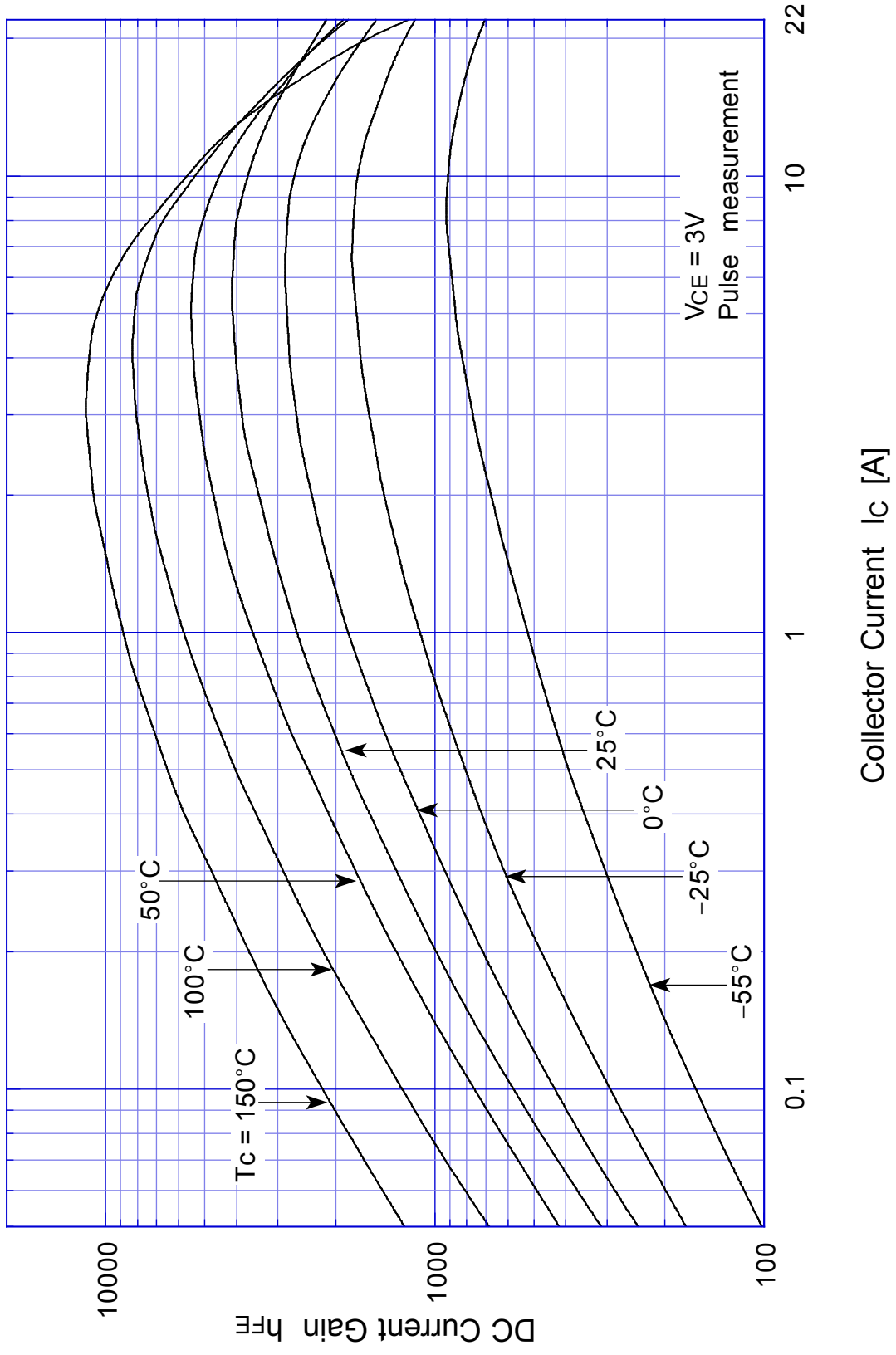
| Item                         | Symbol           | Conditions                    | Ratings  | Unit |
|------------------------------|------------------|-------------------------------|----------|------|
| Storage Temperature          | T <sub>stg</sub> |                               | -55~+150 | °C   |
| Junction Temperature         | T <sub>j</sub>   |                               | +150     | °C   |
| Collector to Base Voltage    | V <sub>CB0</sub> |                               | 100      | V    |
| Collector to Emitter Voltage | V <sub>CEO</sub> |                               | 100      | V    |
| Emitter to Base Voltage      | V <sub>EBO</sub> |                               | 7        | V    |
| Collector Current DC         | I <sub>C</sub>   |                               | 15       | A    |
| Collector Current Peak       | I <sub>CP</sub>  |                               | 22       | A    |
| Base Current DC              | I <sub>B</sub>   |                               | 1        | A    |
| Base Current Peak            | I <sub>BP</sub>  |                               | 2        | A    |
| Total Transistor Dissipation | P <sub>T</sub>   | T <sub>c</sub> = 25°C         | 100      | W    |
| Mounting Torque              | TOR              | (Recommended torque : 0.5N·m) | 0.8      | N·m  |

#### ● Electrical Characteristics (T<sub>c</sub>=25°C)

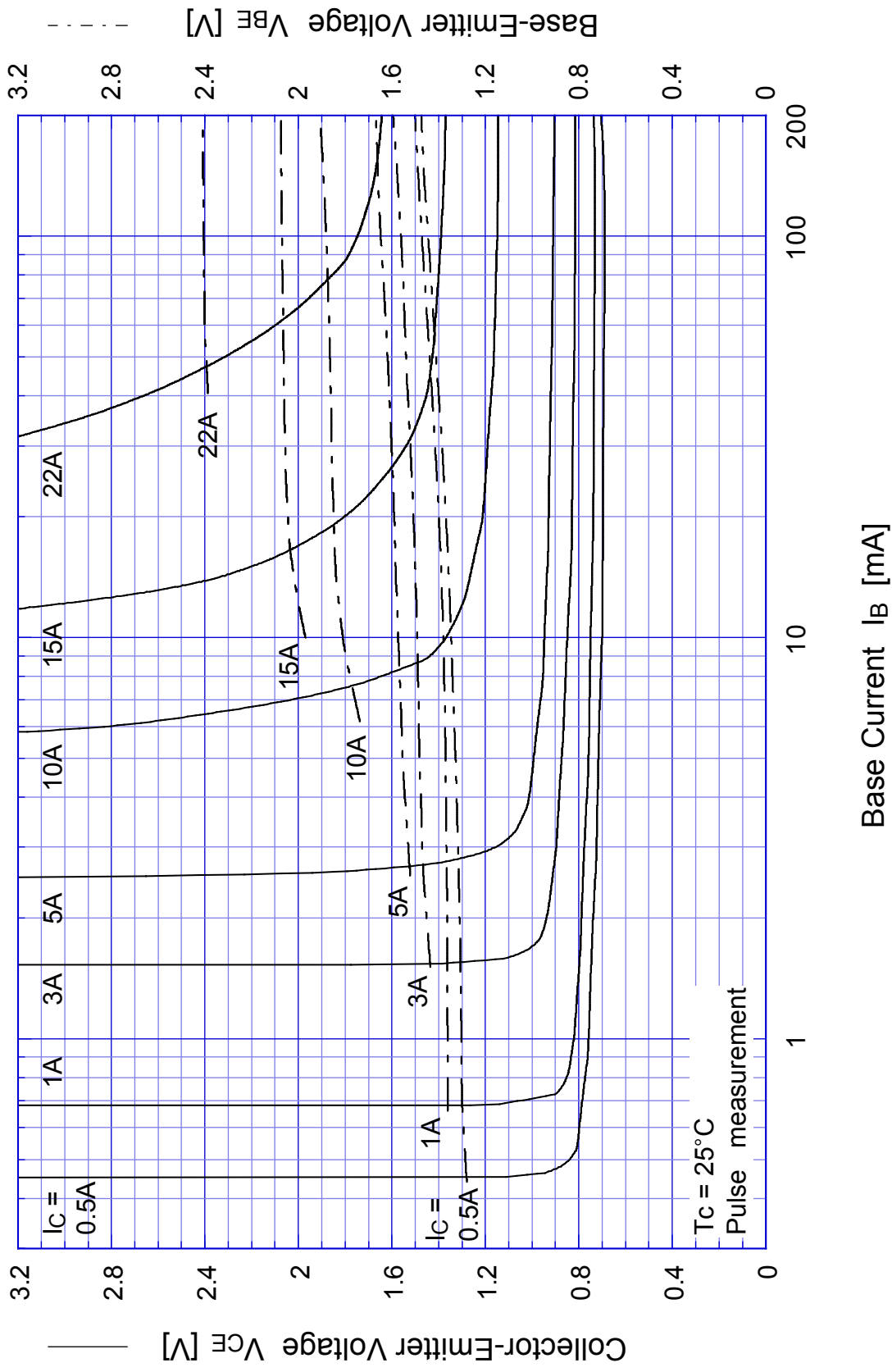
| Item                                    | Symbol               | Conditions  | Ratings    | Unit |
|---|----------------------|---|------------|------|
| Collector Cutoff Current                | I <sub>CB0</sub>     | V <sub>CB</sub> = 100V  | Max 0.1    | mA   |
|   | I <sub>CEO</sub>     | V <sub>CE</sub> = 100V  | Max 0.1    |      |
| Emitter Cutoff Current                  | I <sub>EBO</sub>     | V <sub>EB</sub> = 7V  | Max 5      | mA   |
| DC Current Gain                         | h <sub>FE</sub>      | V <sub>CE</sub> = 3V, I <sub>C</sub> = 10A  | Min 1,500  |      |
|   |                      |   | Max 30,000 |      |
| Collector to Emitter Saturation Voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> = 10A  | Max 1.5    | V    |
| Base to Emitter Saturation Voltage      | V <sub>BE(sat)</sub> | I <sub>B</sub> = 20mA   | Max 2.0    | V    |
| Thermal Resistance                      | θ <sub>jc</sub>      | Junction to case  | Max 1.25   | °C/W |
| Transition Frequency                    | f <sub>T</sub>       | V <sub>CE</sub> = 10V, I <sub>C</sub> = 1.5A  | TYP 20     | MHz  |
| Turn on Time                            | t <sub>on</sub>      |   | Max 2      | μs   |
| Storage Time                            | t <sub>s</sub>       | I <sub>C</sub> = 15A<br>I <sub>B1</sub> = I <sub>B2</sub> = 20mA<br>R <sub>L</sub> = 2Ω | Max 5      |      |
| Fall Time                               | t <sub>f</sub>       | V <sub>BB2</sub> = 4V   | Max 3      |      |

# 2SD1026

$h_{FE} - I_C$

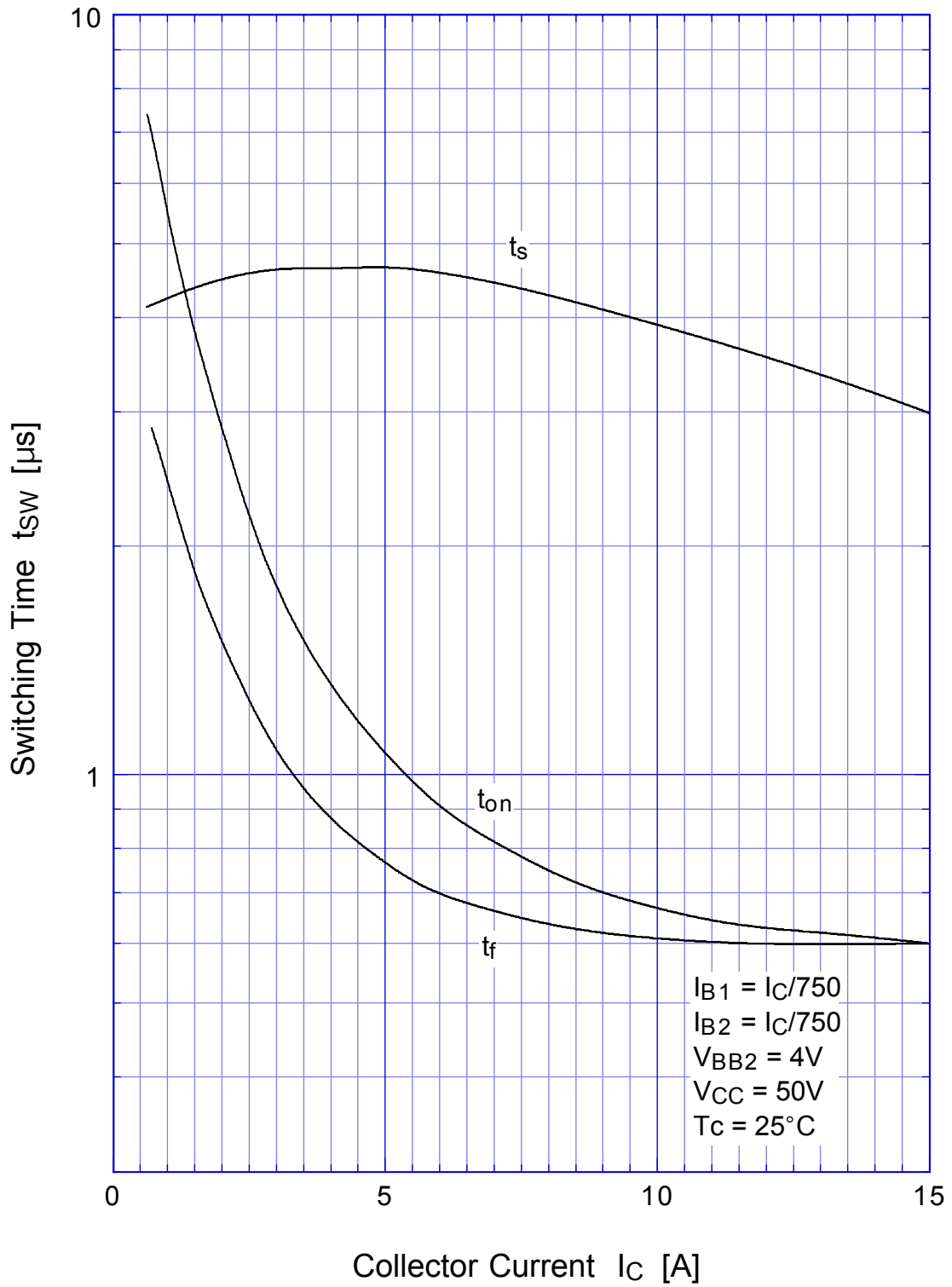


## 2SD1026 Saturation Voltage



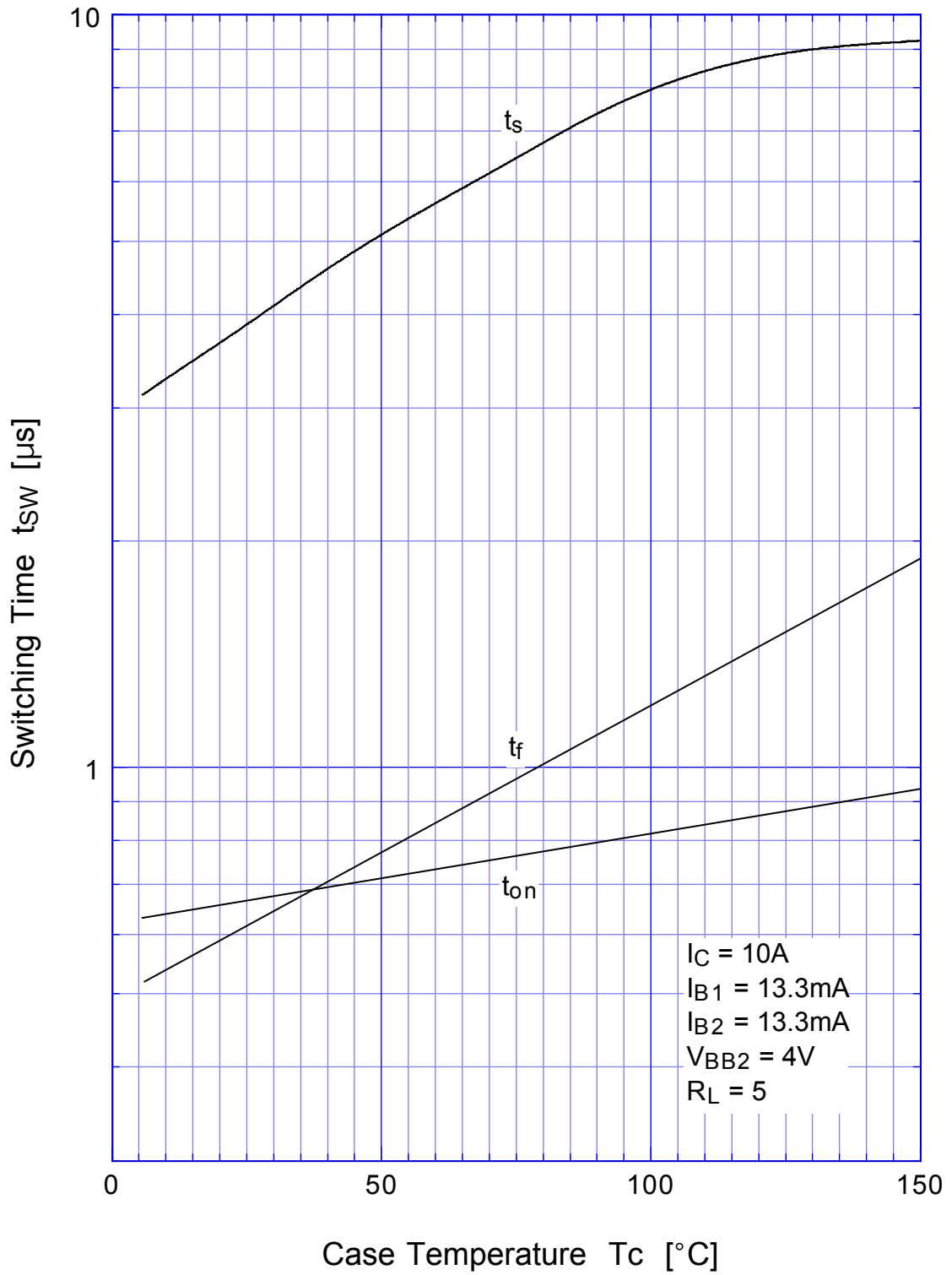
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Switching Time -  $I_C$

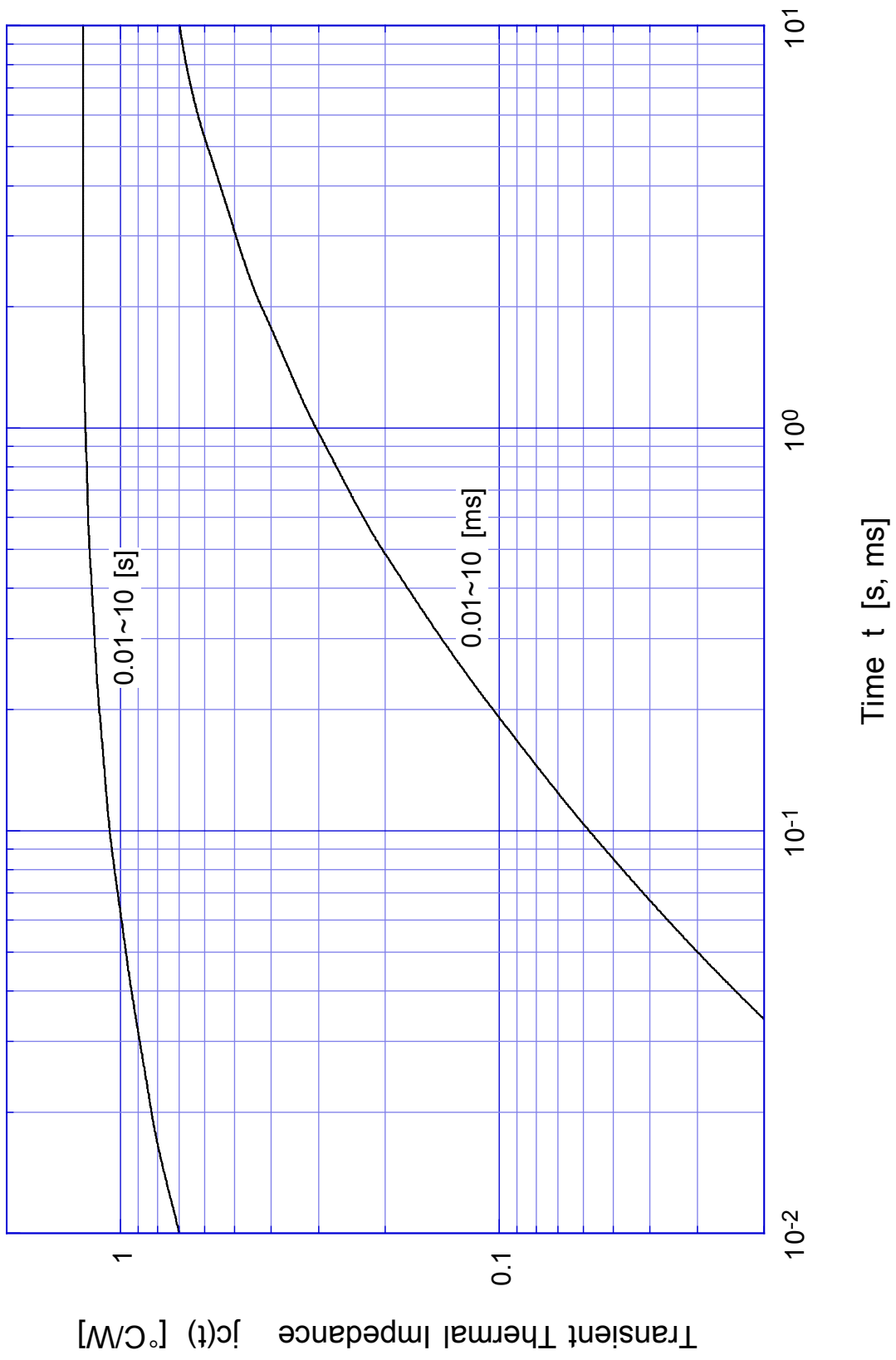


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Switching Time - Tc

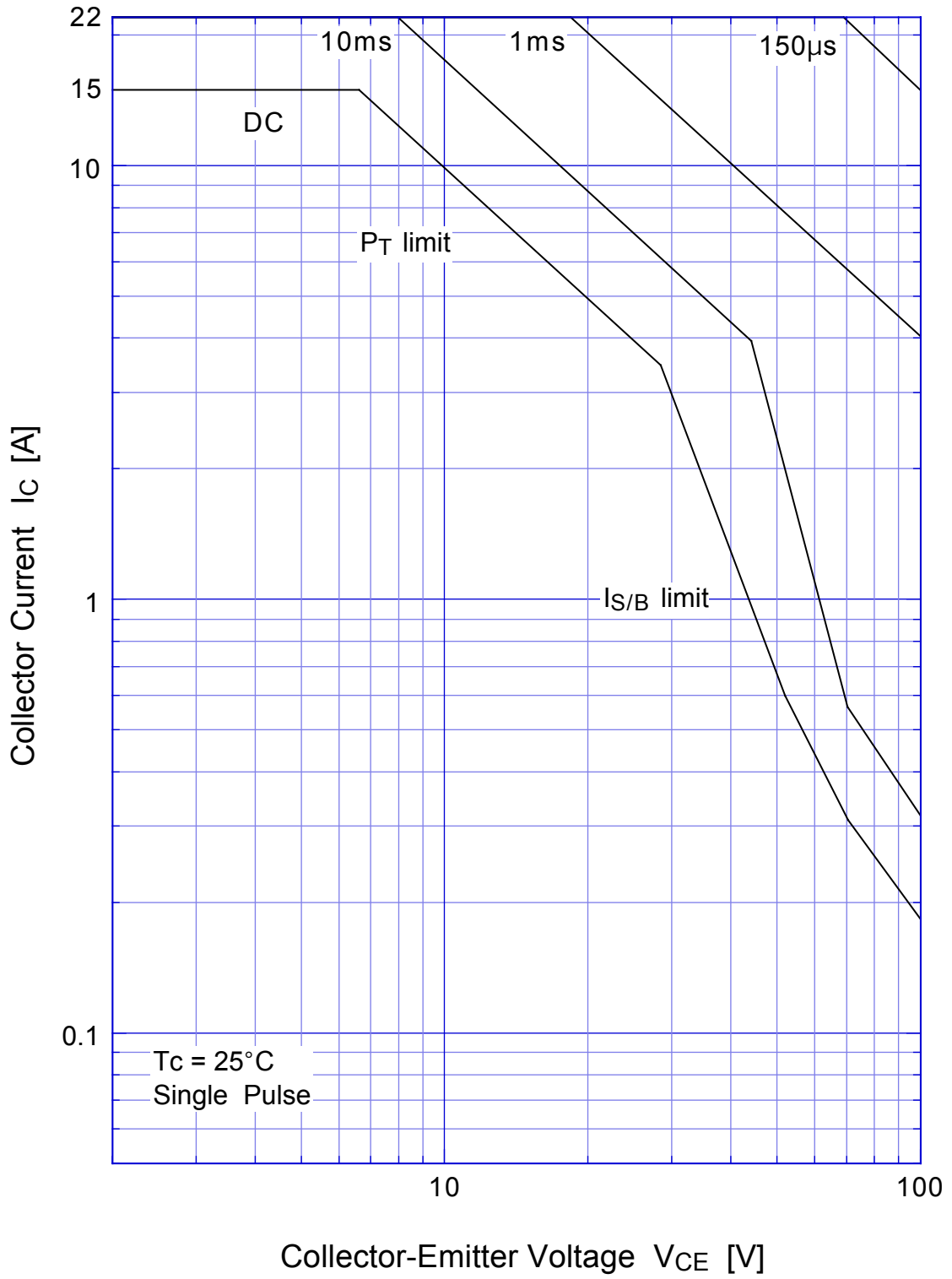


# 2SD1026 Transient Thermal Impedance



# 2SD1026

# Forward Bias SOA



## 2SD1026 Collector Current Derating

