

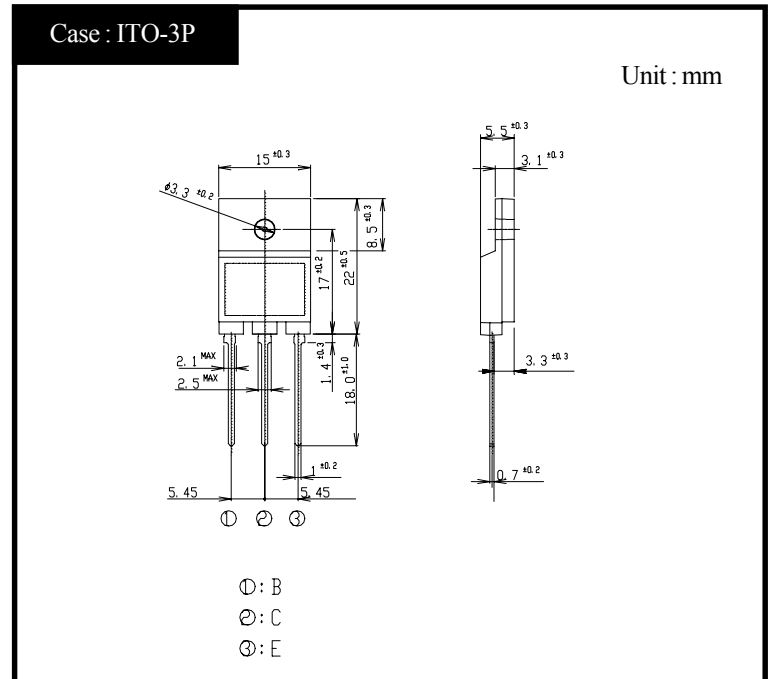
# SHINDENGEN

## Switching Power Transistor

# 2SC4941

## 6A NPN

### OUTLINE DIMENSIONS



### RATINGS

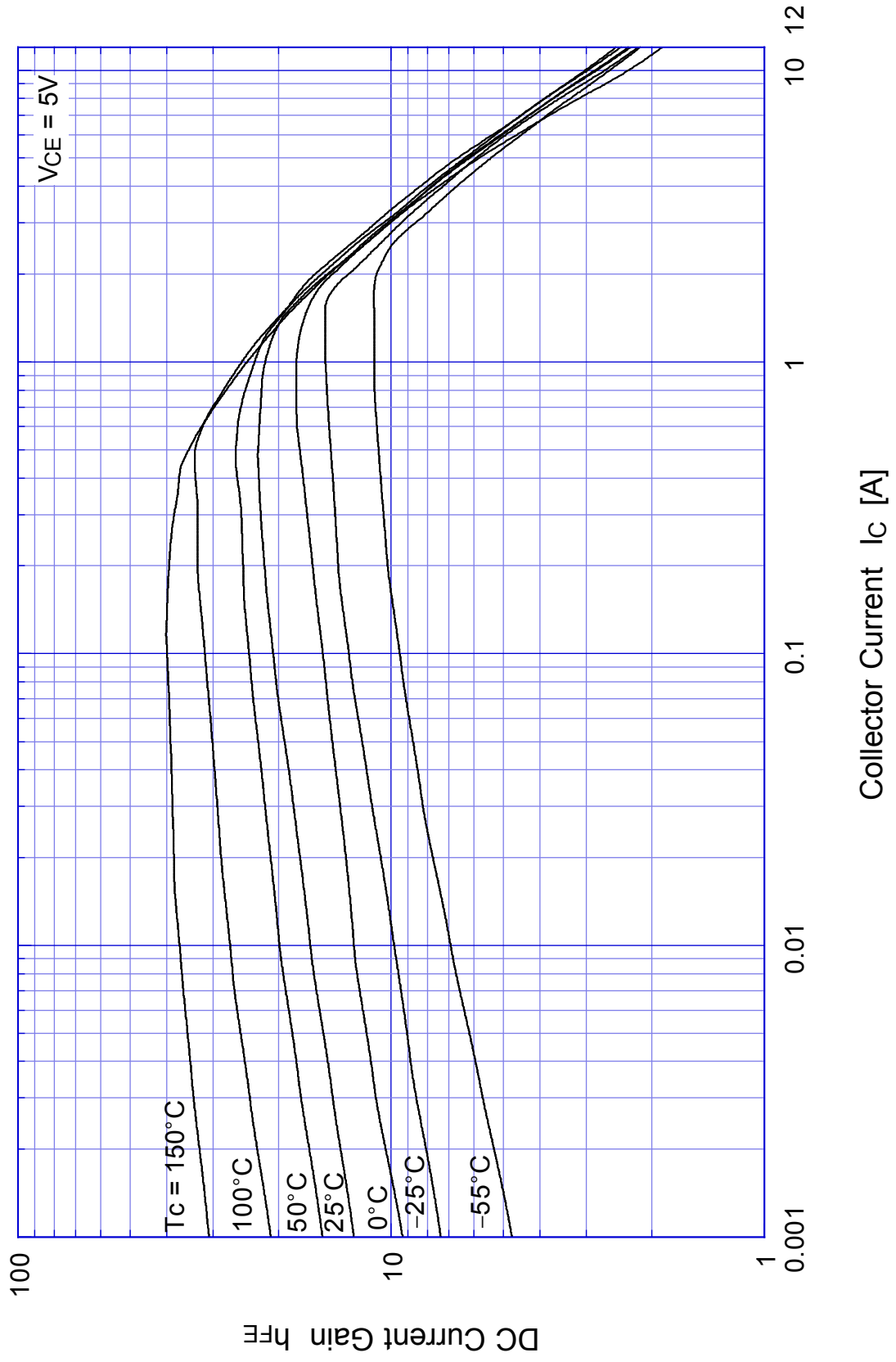
#### ● Absolute Maximum Ratings

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>CBO</sub>		1500	V
Collector to Emitter Voltage	V <sub>CEO</sub>		800	V
Emitter to Base Voltage	V <sub>EBO</sub>		7	V
Collector Current DC	I <sub>C</sub>		6	A
Collector Current Peak	I <sub>CP</sub>		12	A
Base Current DC	I <sub>B</sub>		3	A
Base Current Peak	I <sub>BP</sub>		6	A
Total Transistor Dissipation	P <sub>T</sub>		65	W
Dielectric Strength	V <sub>dis</sub>	Terminals to case, AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque)	0.8(0.5)	N·m

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

Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	V <sub>CEO(sus)</sub>	I <sub>C</sub> = 0.2A	Min 800	V
Collector to Base Voltage	V <sub>CBO</sub>	I <sub>CB</sub> = 1mA	Min 1500	
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = 1200V	Max 0.1	mA
	I <sub>CEO</sub>	rated V <sub>CEO</sub>	Max 0.1	
Emitter Cutoff Current	I <sub>EBO</sub>	rated V <sub>EBO</sub>	Max 0.1	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1A	Min 15	
	h <sub>FEL</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	Min 7	
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 3A	Max 0.5	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>B</sub> = 0.6A	Max 1.5	V
Thermal Resistance	θ <sub>jc</sub>	Junction to case	Max 1.92	°C/W
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 0.6A	TYP 8	MHz
Turn on Time	t <sub>on</sub>	I <sub>C</sub> = 3A	Max 0.5	μs
Storage Time	t <sub>s</sub>	I <sub>B1</sub> = 0.6A, I <sub>B2</sub> = 1.2A	Max 3.5	
Fall Time	t <sub>f</sub>	R <sub>L</sub> = 85 Ω, V <sub>BB2</sub> = 4V	Max 0.3	

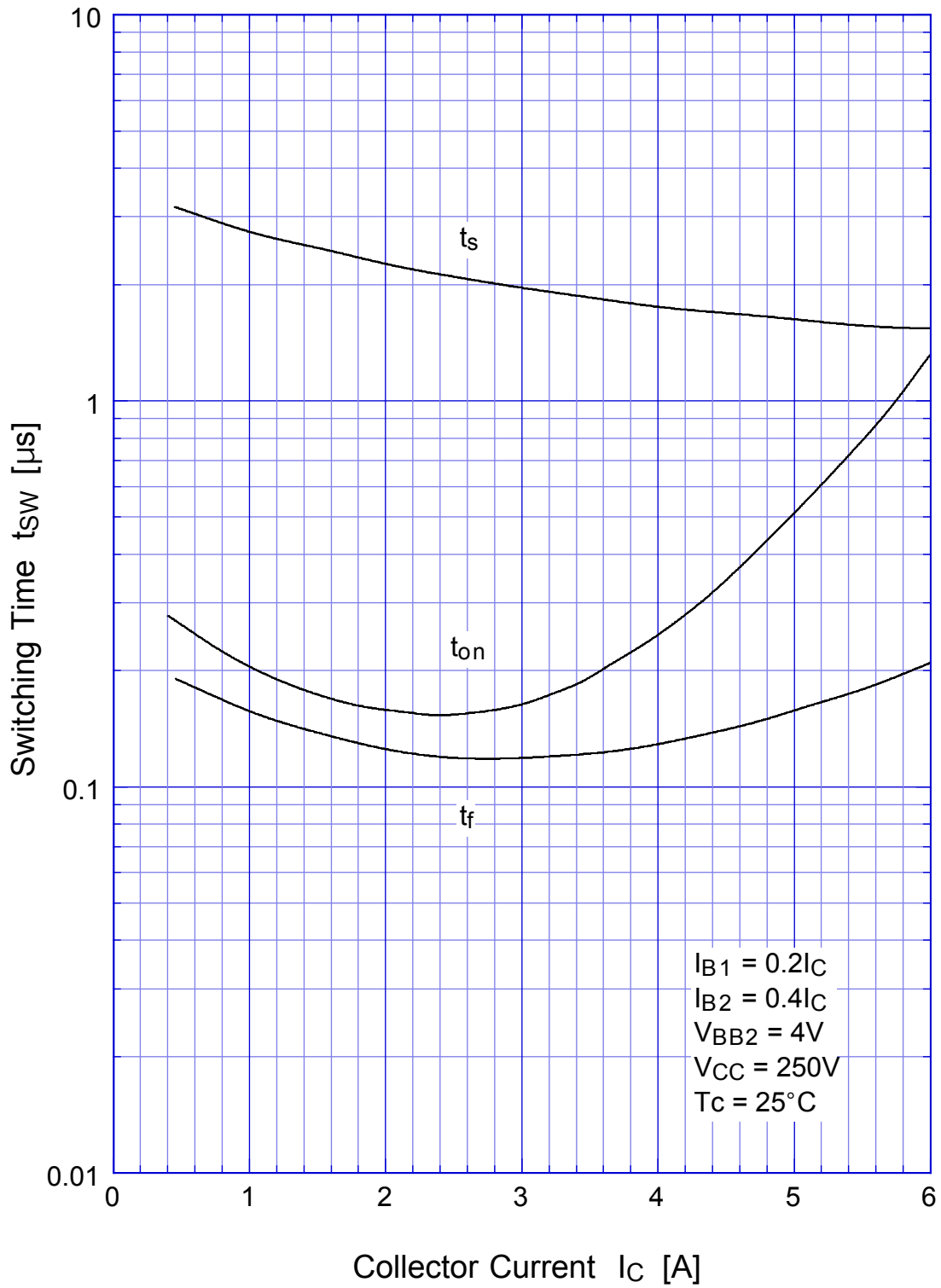
# 2SC4941 $h_{FE} - I_C$





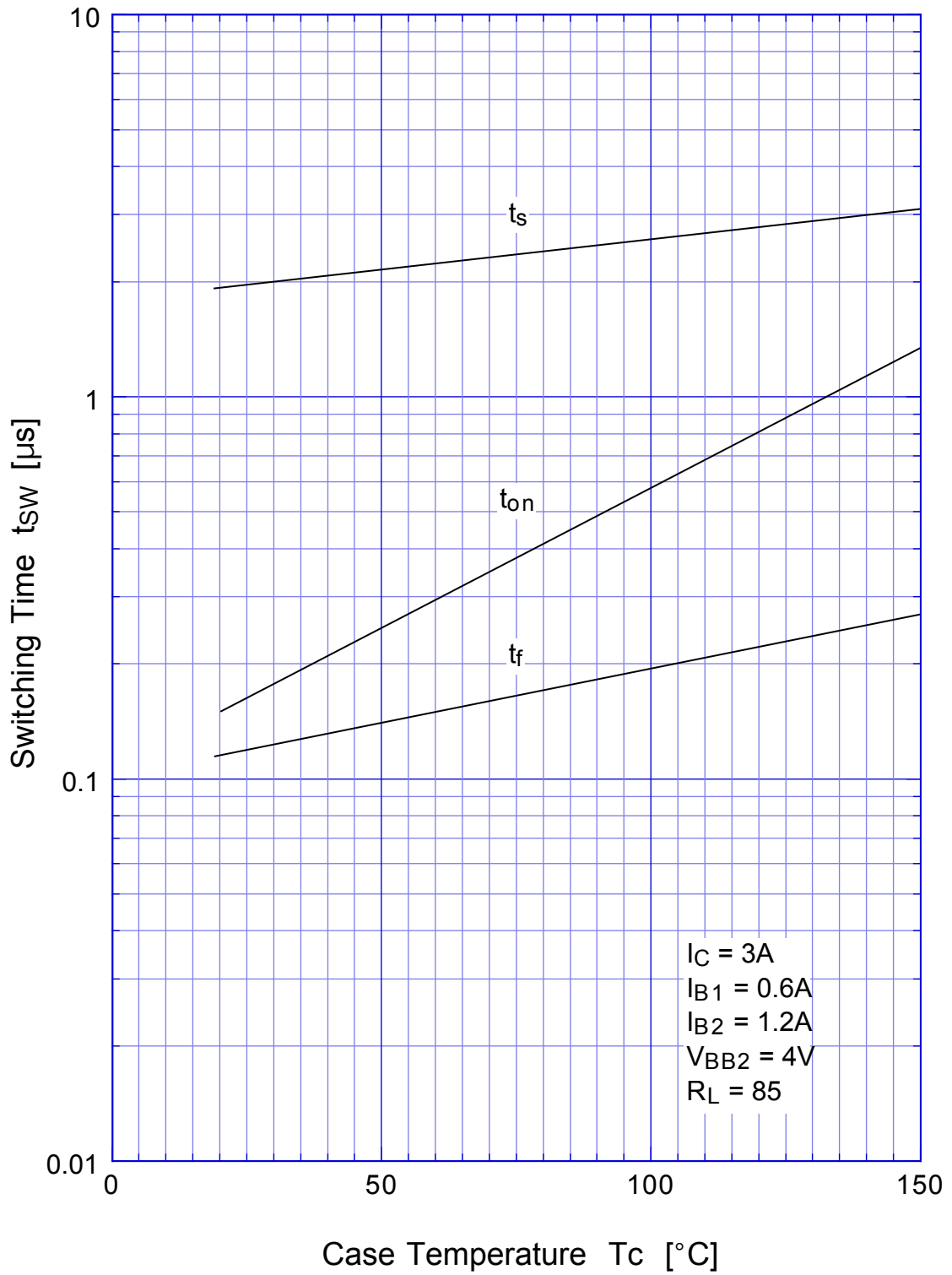
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## Switching Time - $I_C$

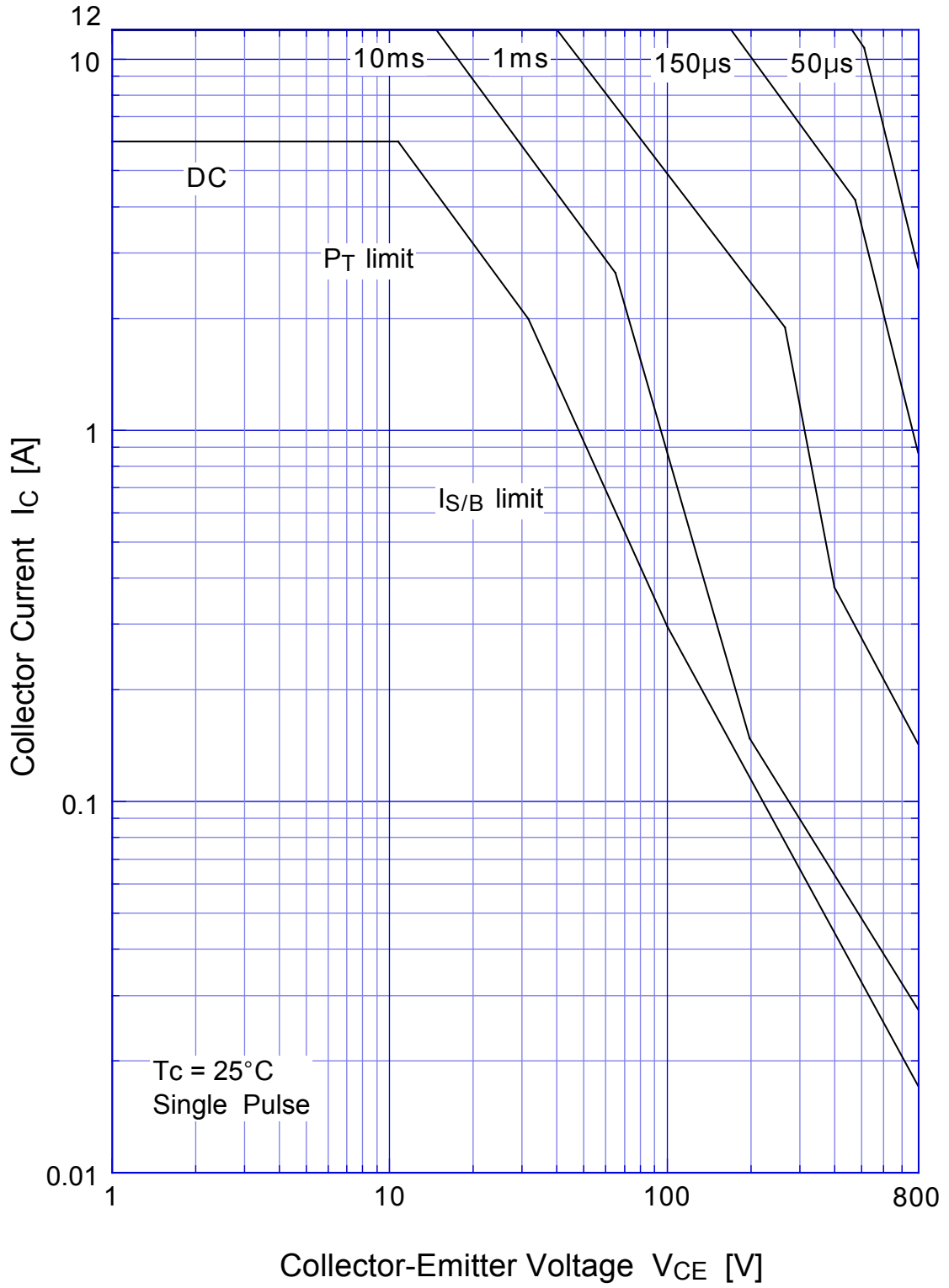


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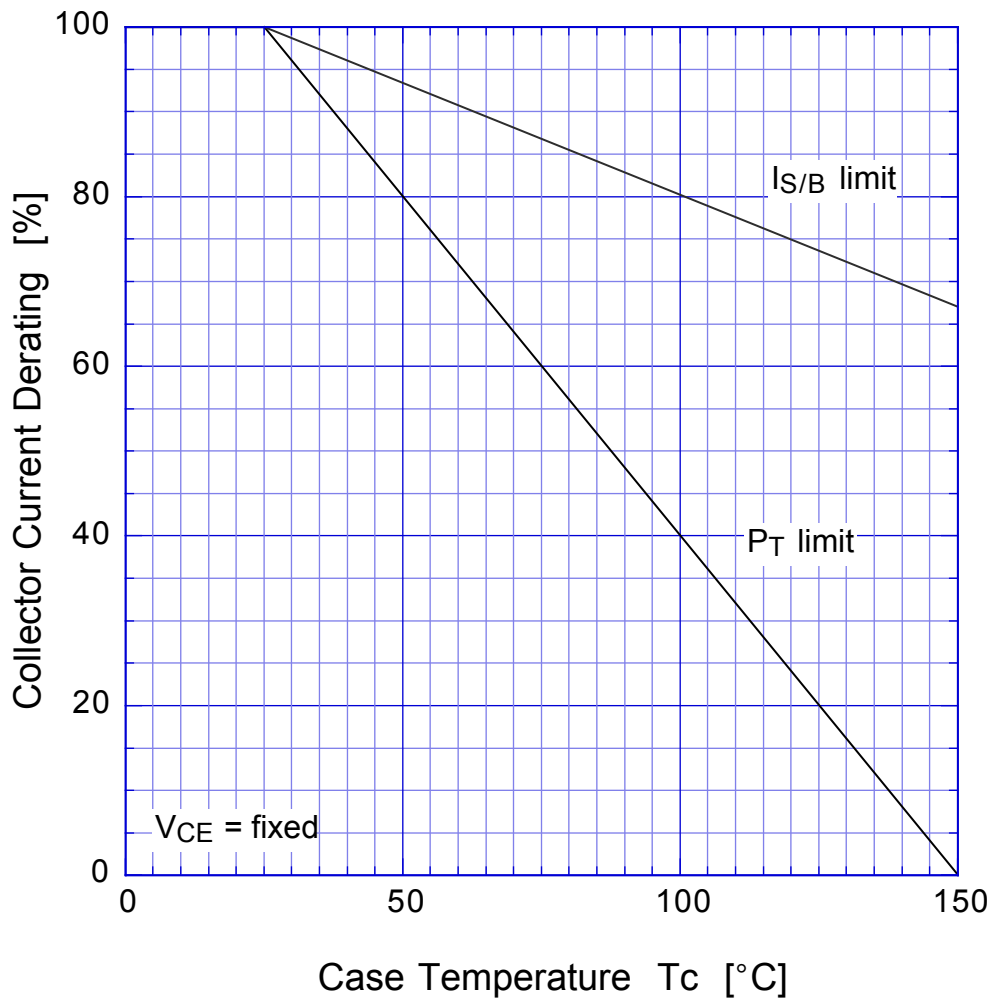
## Switching Time - Tc



# 2SC4941 Forward Bias SOA

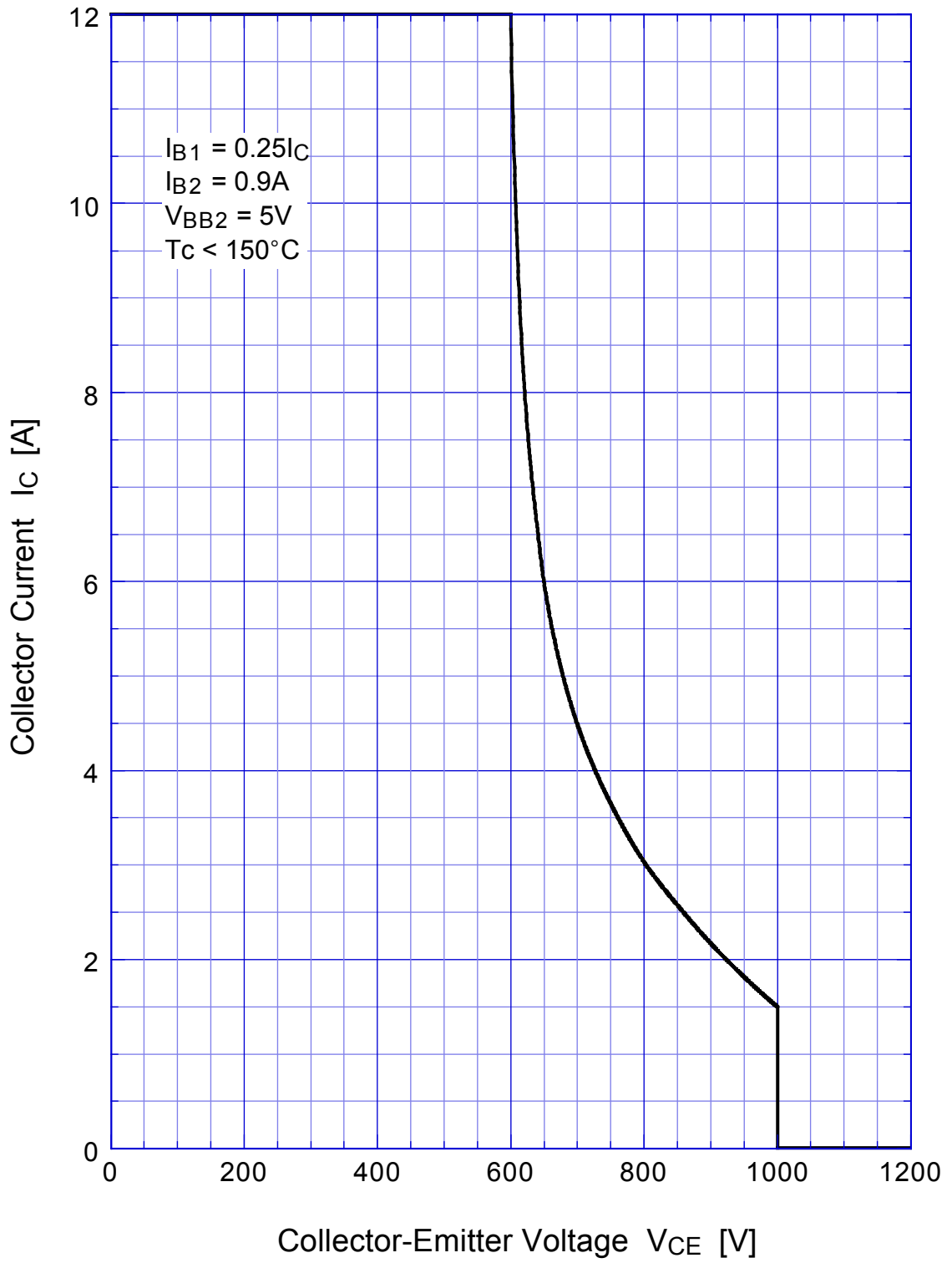


## 2SC4941 Collector Current Derating



2SC4941

Reverse Bias SOA





# 2SC4941 Transient Thermal Impedance

