

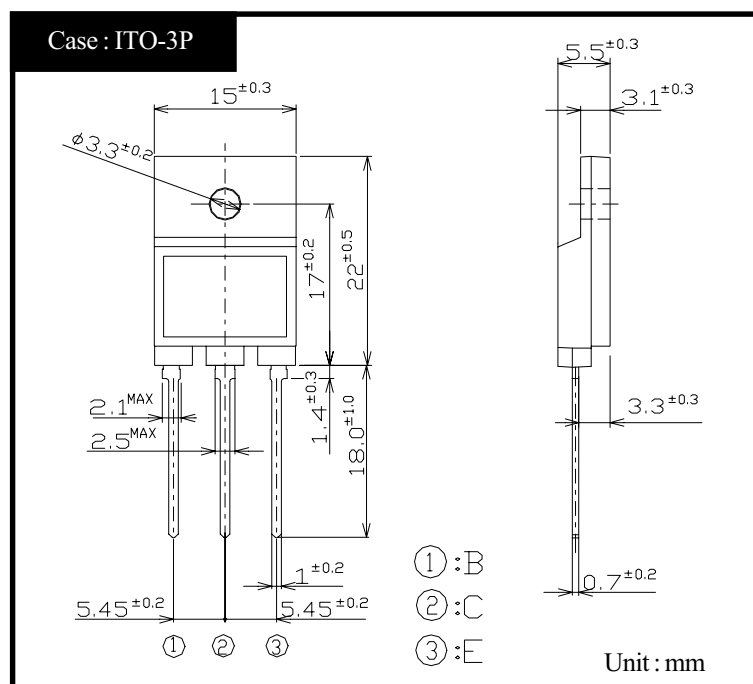
SHINDENGEN

Switching Power Transistor

2SC4941

6A NPN

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings

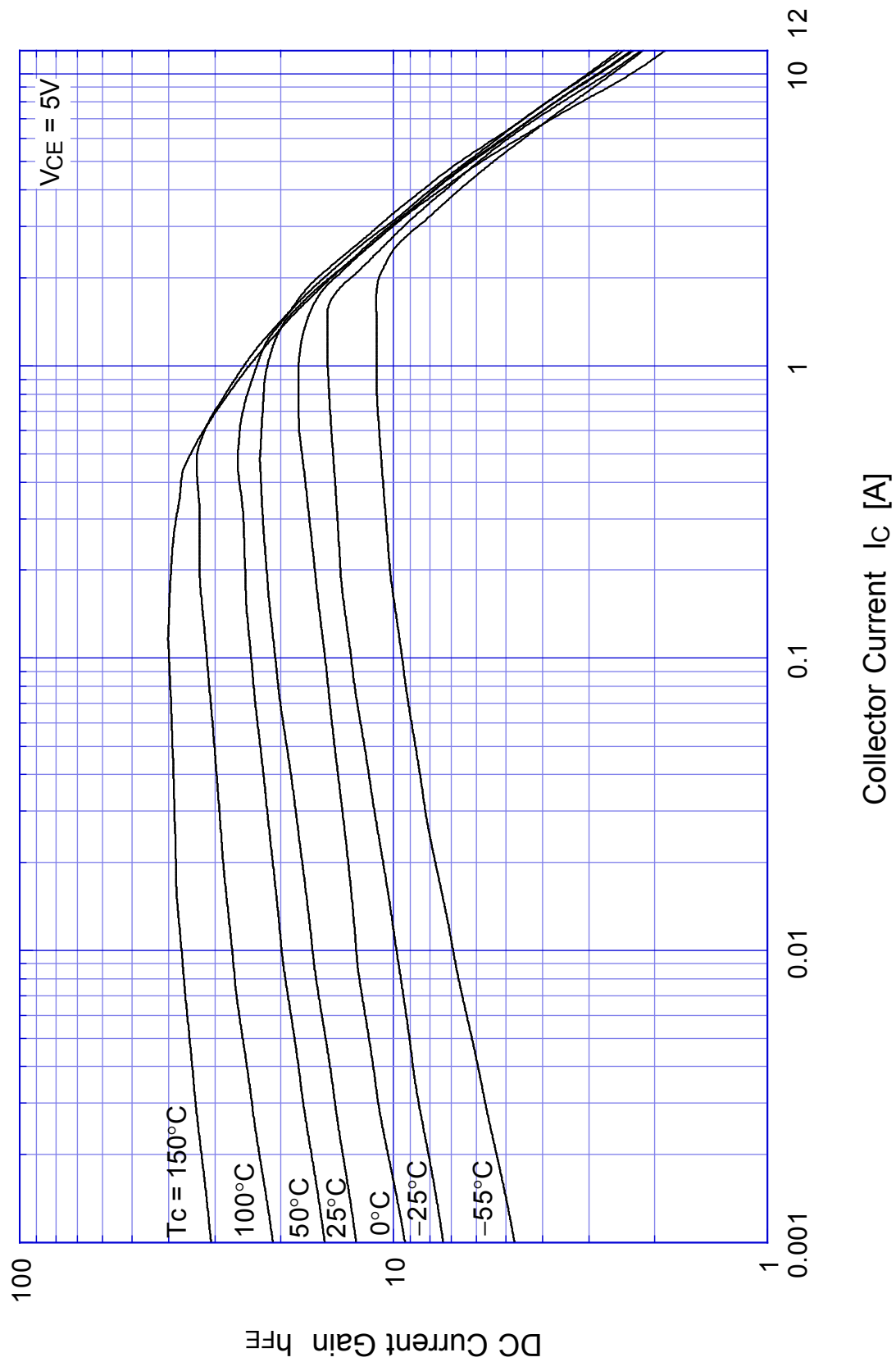
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T_{stg}		-55~150	°C
Junction Temperature	T_j		150	°C
Collector to Base Voltage	V_{CBO}		1500	V
Collector to Emitter Voltage	V_{CEO}		800	V
Emitter to Base Voltage	V_{EBO}		7	V
Collector Current DC	I_C		6	A
Collector Current Peak	I_{CP}		12	
Base Current DC	I_B		3	
Base Current Peak	I_{BP}		6	
Total Transistor Dissipation	P_T		65	W
Dielectric Strength	V_{dis}	Terminals to case, AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque)	0.8(0.5)	N·m

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

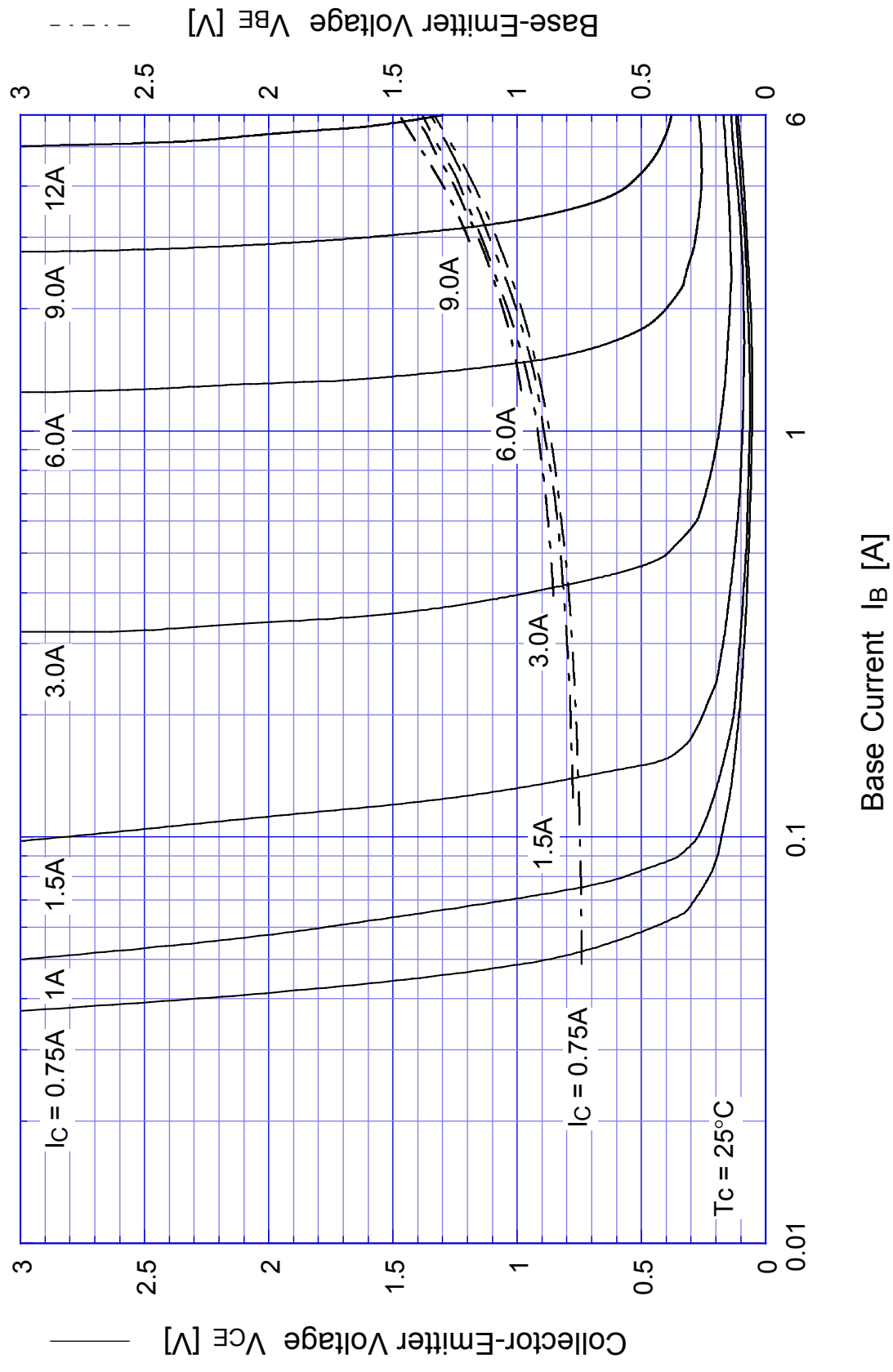
Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 0.2\text{A}$	Min 800	V
Collector to Base Voltage	V_{CBO}	$I_{CB} = 1\text{mA}$	Min 1500	
Collector Cutoff Current	I_{CBO}	$V_{CB} = 1200\text{V}$	Max 0.1	mA
	I_{CEO}	rated V_{CEO}	Max 0.1	
Emitter Cutoff Current	I_{EBO}	rated V_{EBO}	Max 0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	Min 15	
	h_{FEL}	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	Min 7	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}$	Max 0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_B = 0.6\text{A}$	Max 1.5	V
Thermal Resistance	θ_{jc}	Junction to case	Max 1.92	°C/W
Transition Frequency	f_T	$V_{CE} = 10\text{V}, I_C = 0.6\text{A}$	TYP 8	MHz
Turn on Time	t_{on}	$I_C = 3\text{A}$	Max 0.5	μs
Storage Time	t_s	$I_{B1} = 0.6\text{A}, I_{B2} = 1.2\text{A}$	Max 3.5	
Fall Time	t_f	$R_L = 85\Omega, V_{BB2} = 4\text{V}$	Max 0.3	

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$h_{FE} - I_C$

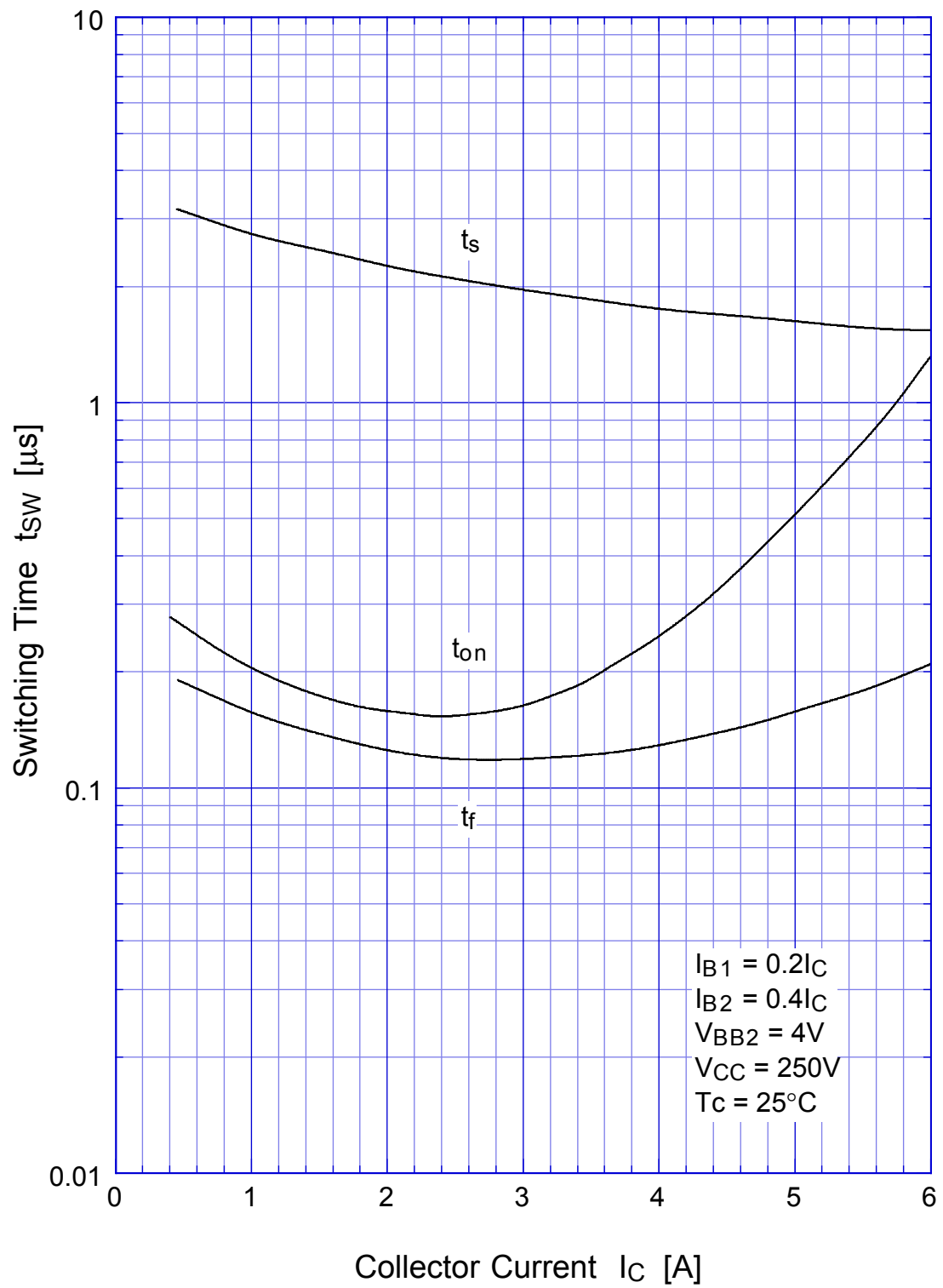


2SC4941 Saturation Voltage



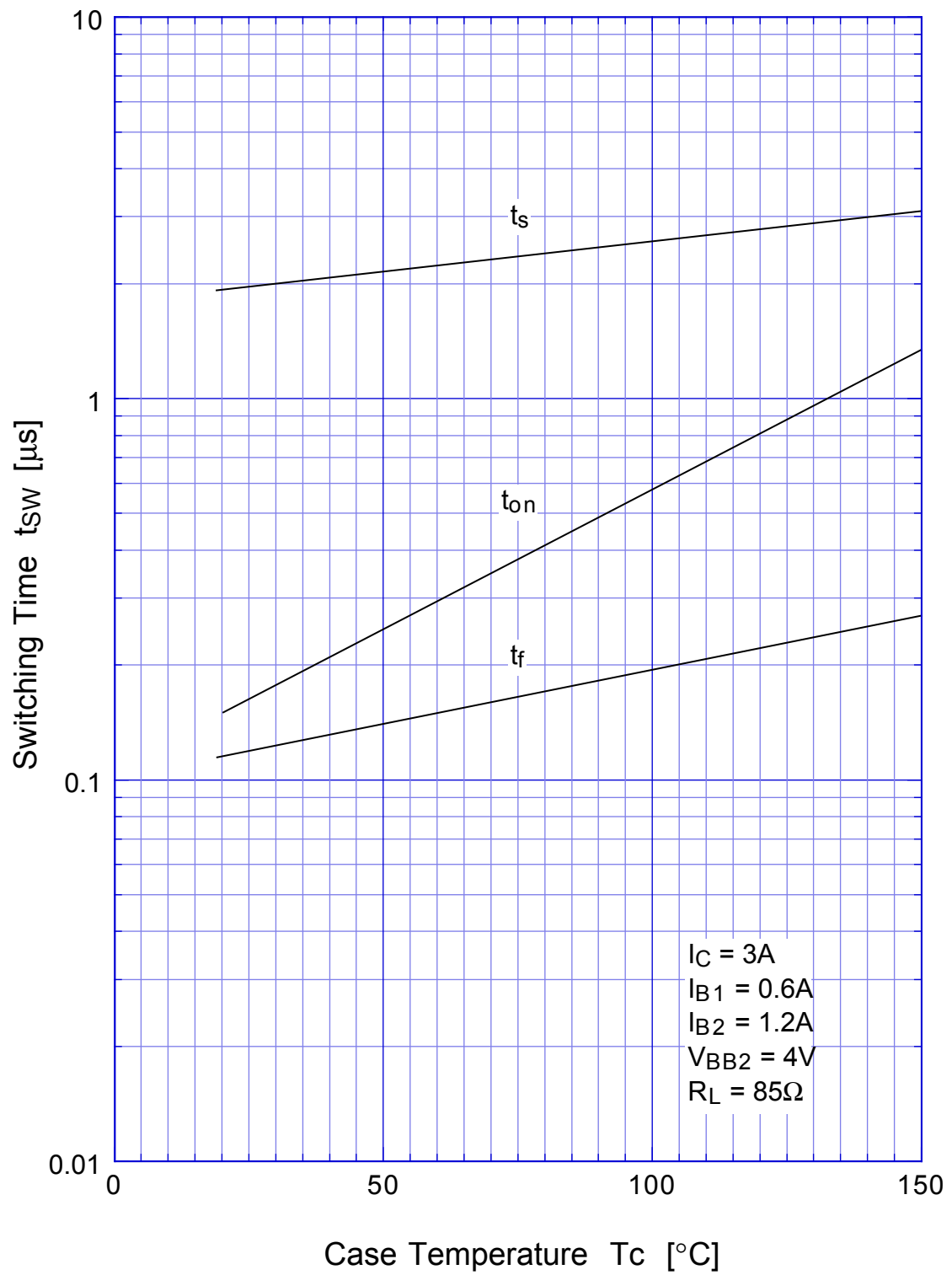
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Switching Time - I_C

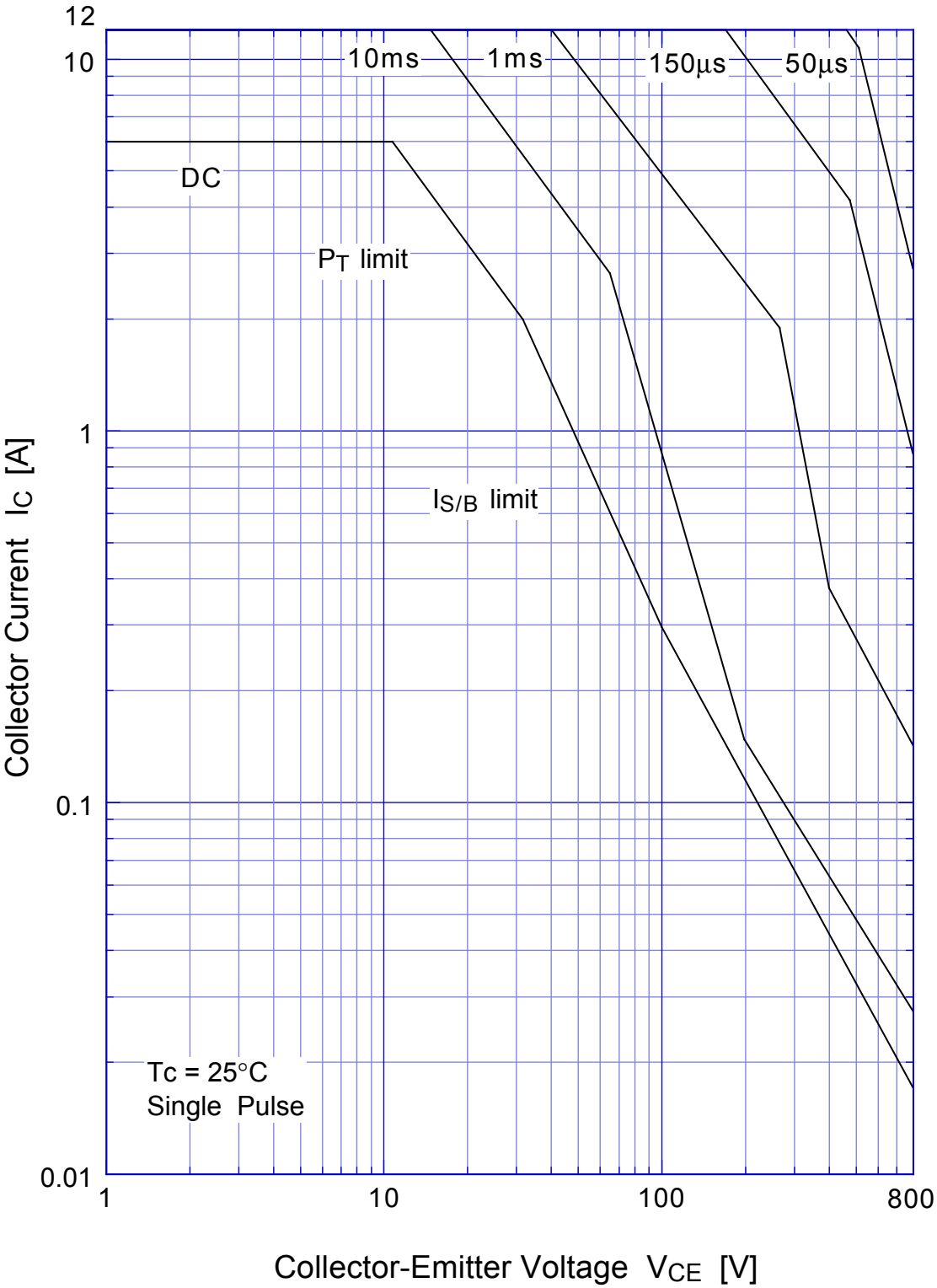


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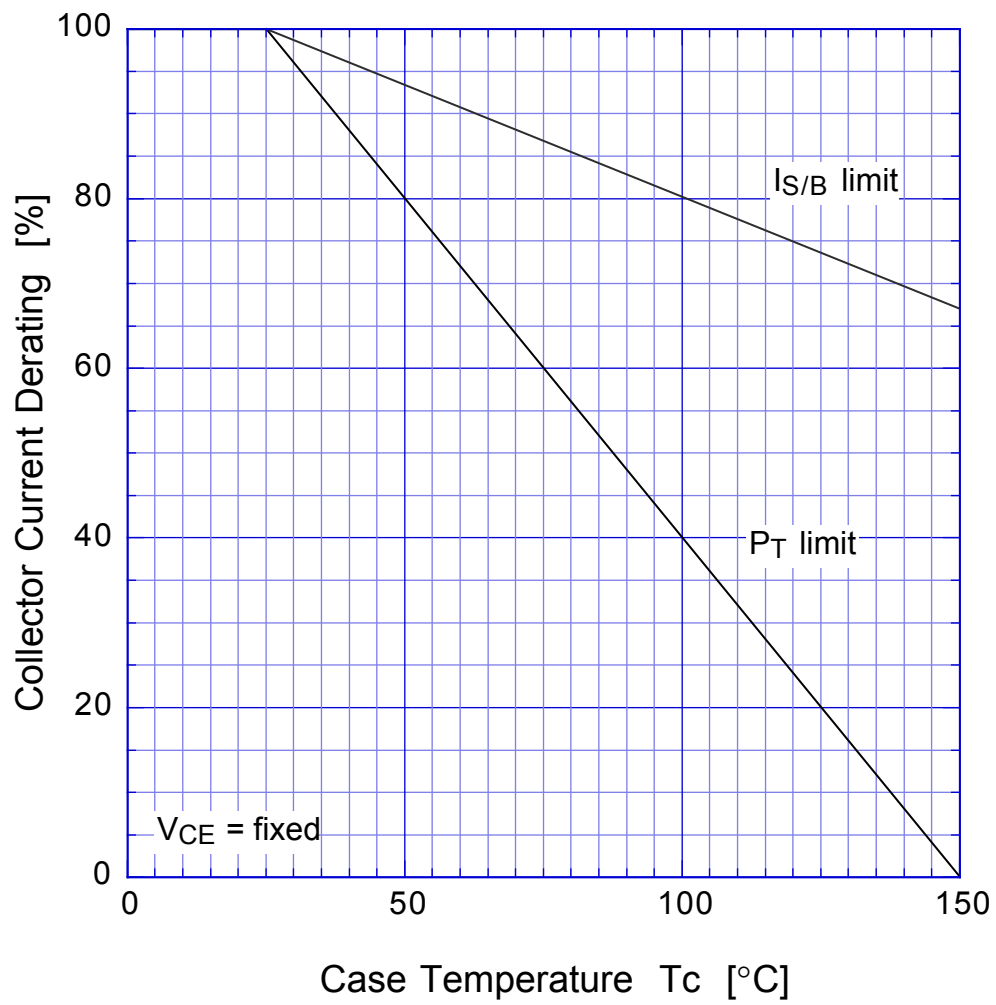
Switching Time - T_c



2SC4941 Forward Bias SOA

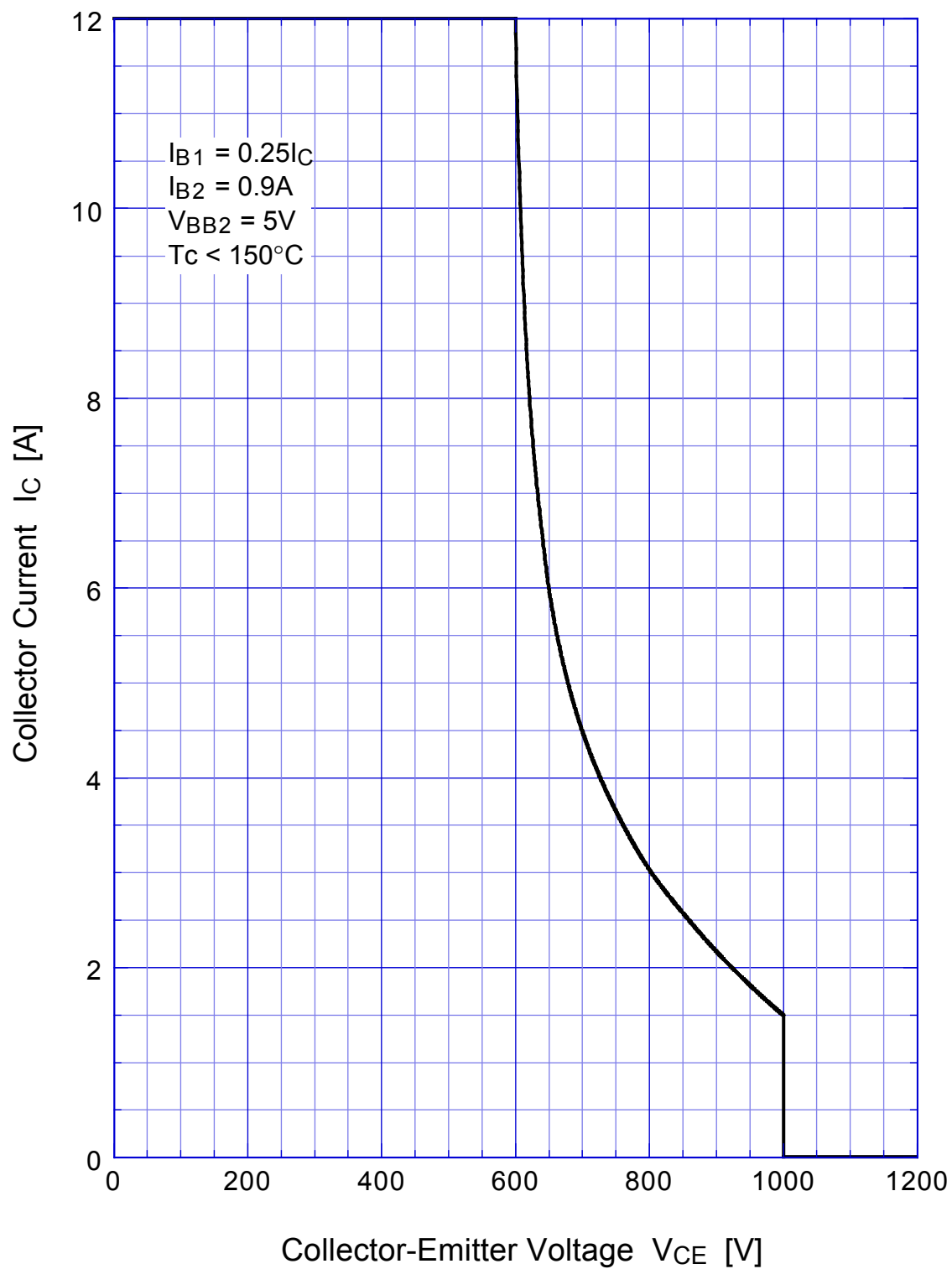


2SC4941 Collector Current Derating



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Reverse Bias SOA



2SC4941 Transient Thermal Impedance

