SHINDENGEN

Switching Power Transistor **HSV Series**

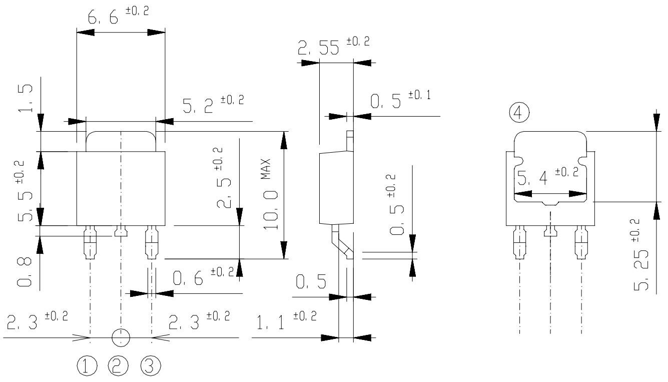
2SC4978
(TE3S8)

3A NPN

OUTLINE DIMENSIONS

Case : E-pack

Unit : mm



RATINGS

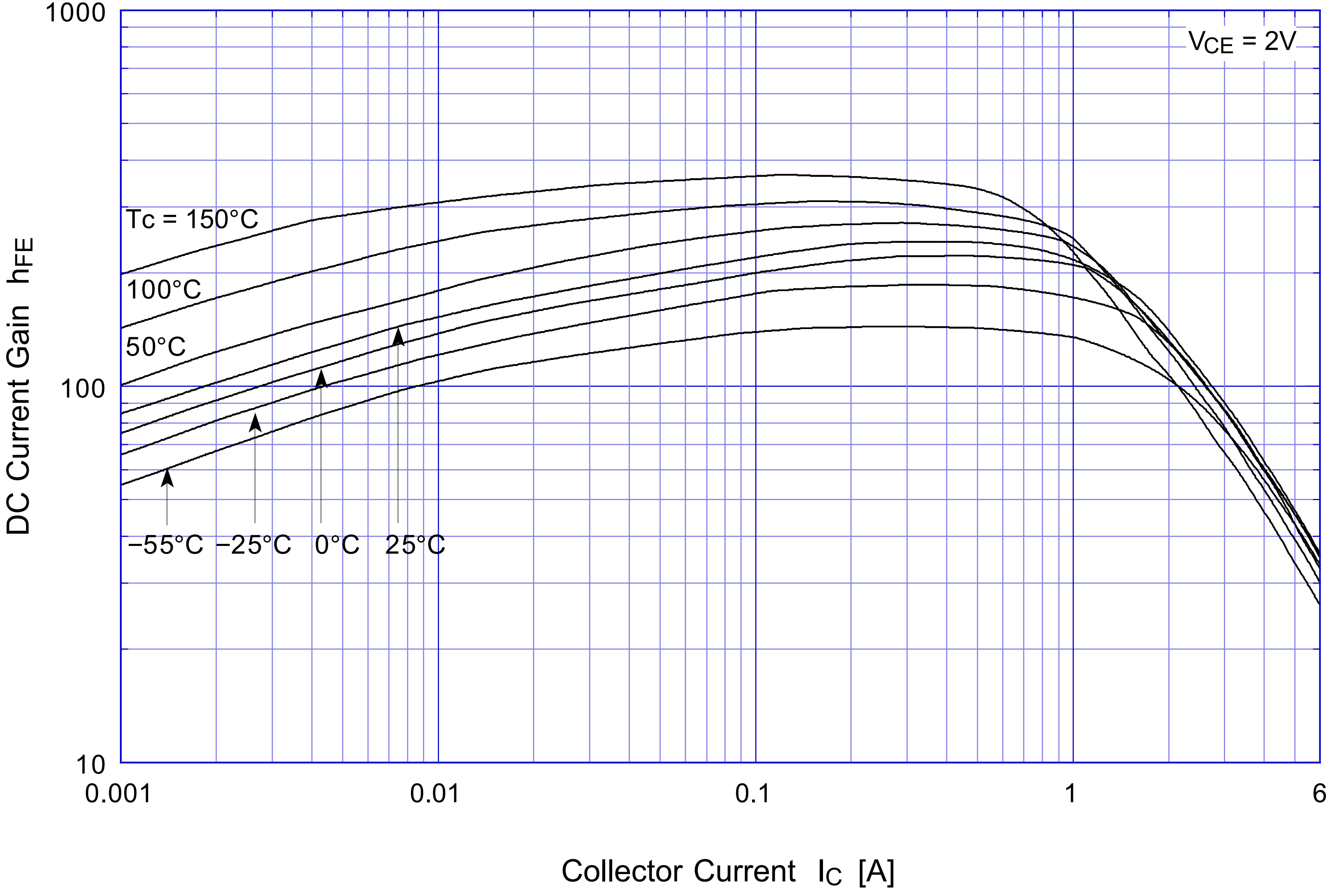
●Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	Tstg		−55～150	℃
Junction Temperature	Tj		150	℃
Collector to Base Voltage	V_{CBO}		100	V
Collector to Emitter Voltage	V_{CEO}		80	V
Emitter to Base Voltage	V_{EBO}		7	V
Collector Current DC	I_C		3	A
Collector Current Peak	I_{CP}		6	A
Base Current DC	I_B		1	A
Base Current Peak	I_{BP}		1.5	A
Total Transistor Dissipation	P_T	Tc = 25℃	10	W

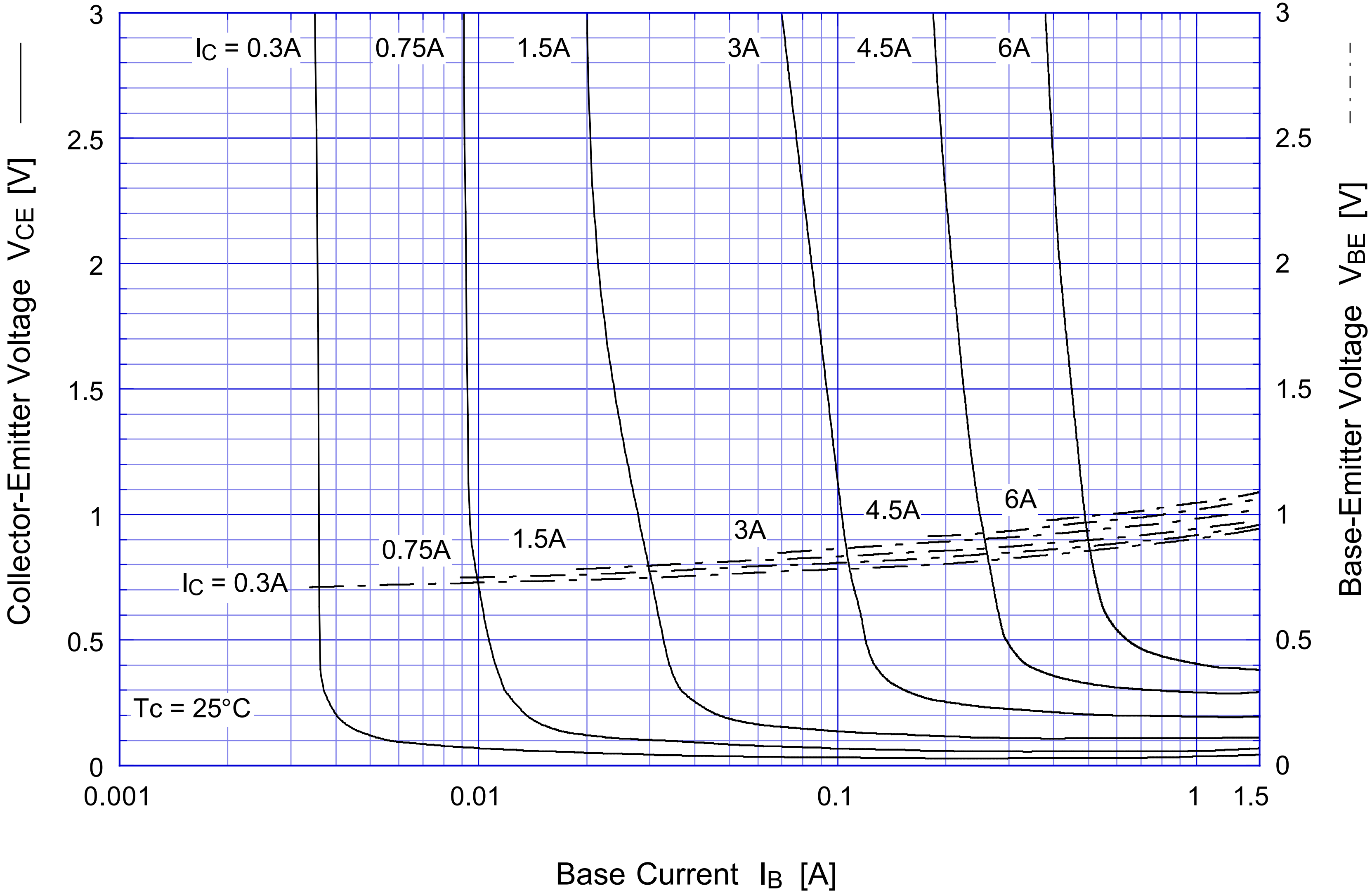
●Electrical Characteristics (Tc=25℃)

Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	V_{CEO}(sus)	I_C = 0.05A	Min 80	V
Collector Cutoff Current	I_{CBO}	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} = 2V, I_C = 1.5A	Min 70	
Collector to Emitter Saturation Voltage	V_{CE}(sat)	I_C = 1.5A	Max 0.3	V
Base to Emitter Saturation Voltage	V_{BE}(sat)	I_B = 0.08A	Max 1.2	V
Thermal Resistance	θ jc	Junction to case	Max 12.5	℃/W
Transition Frequency	f_T	V_{CE} = 10V, I_C = 0.3A	TYP 50	MHz
Turn on Time	ton	I_C = 1.5A I_{B1} = 0.15A, I_{B2} = 0.15A R_L = 20Ω, V_{BB2} = 4V	Max 0.3	μs
Storage Time	ts		Max 1.5	
Fall Time	tf		Max 0.2	

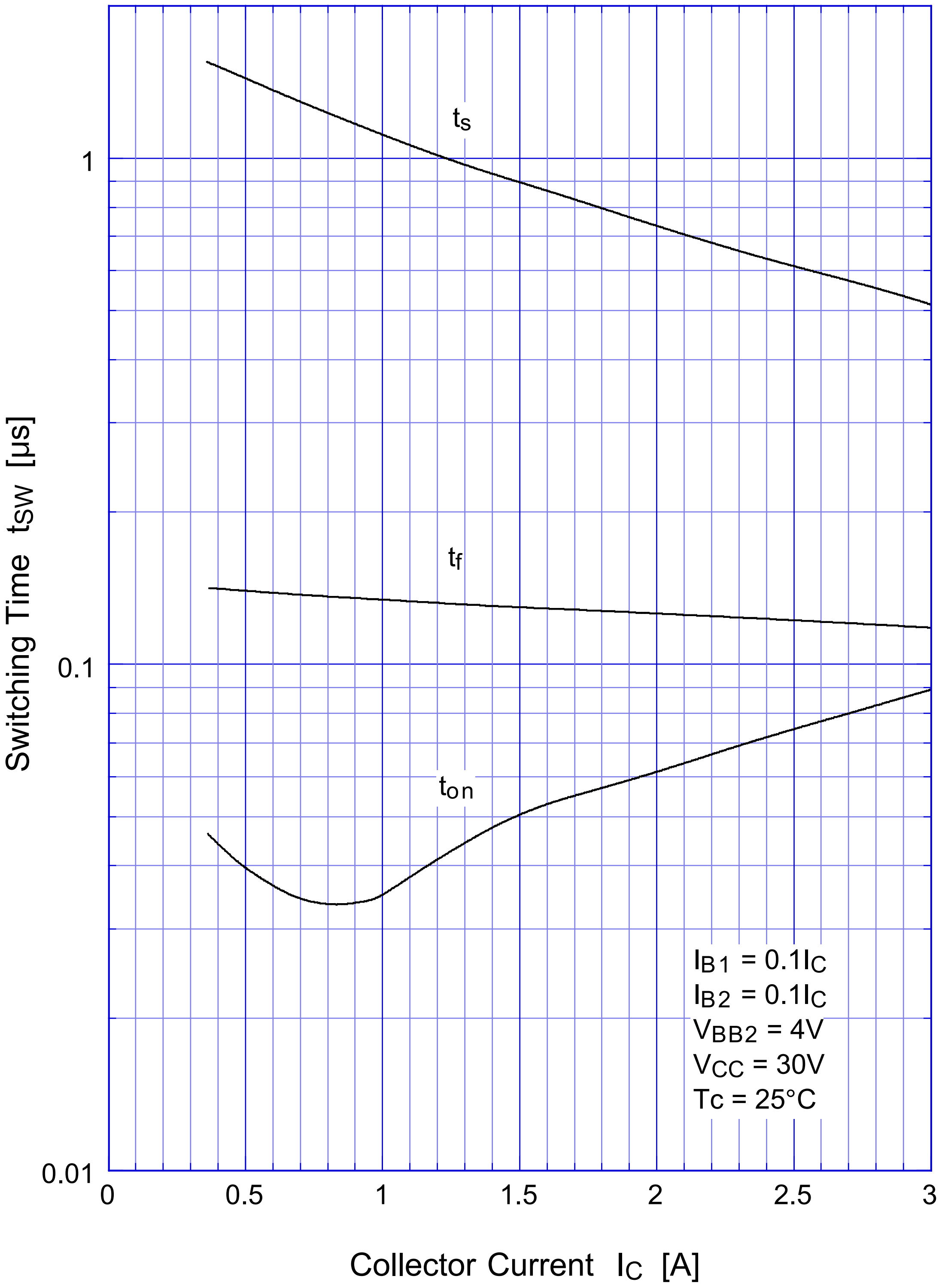
2SC4978 h_{FE} - I_C



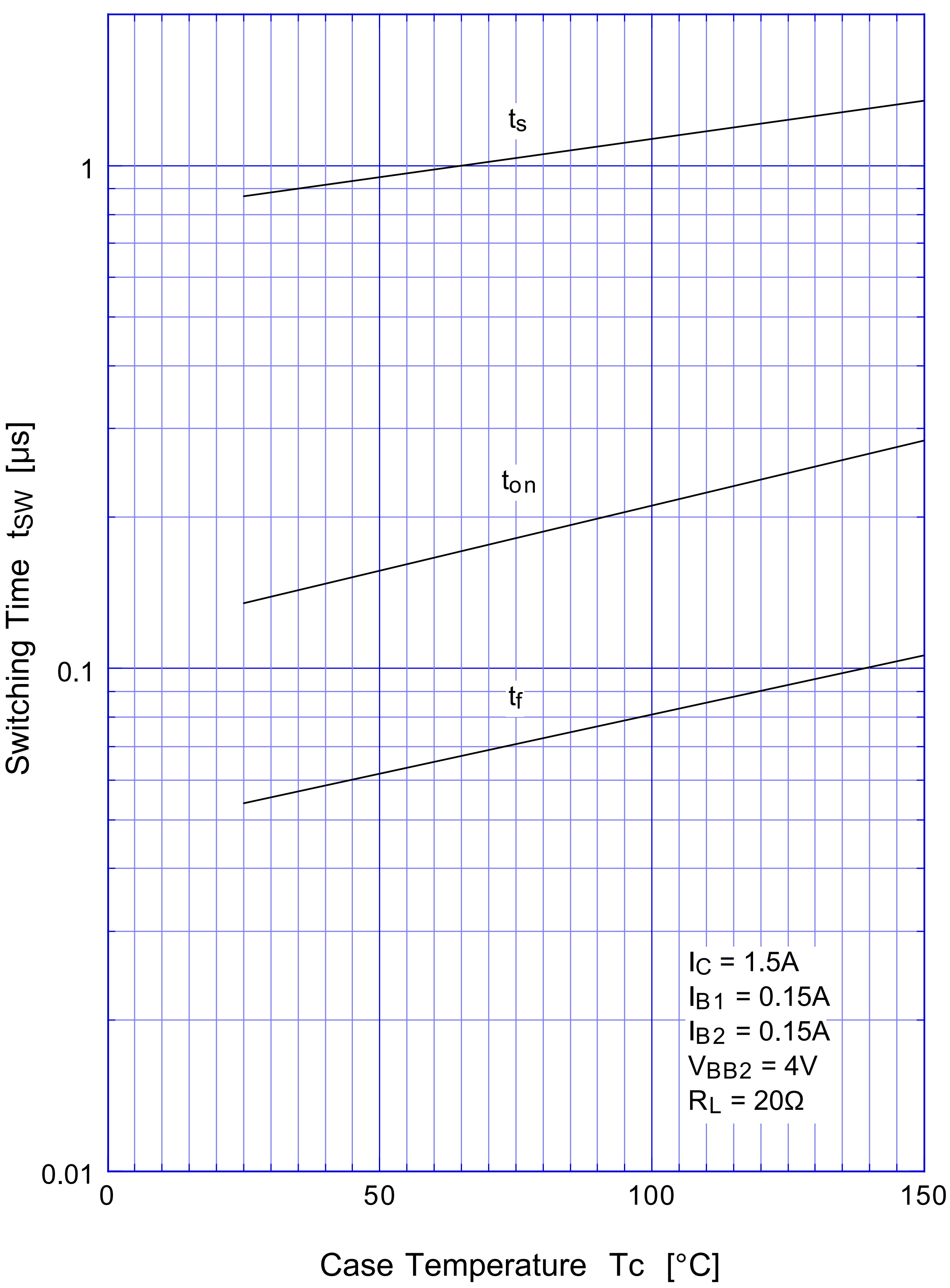
2SC4978 Saturation Voltage



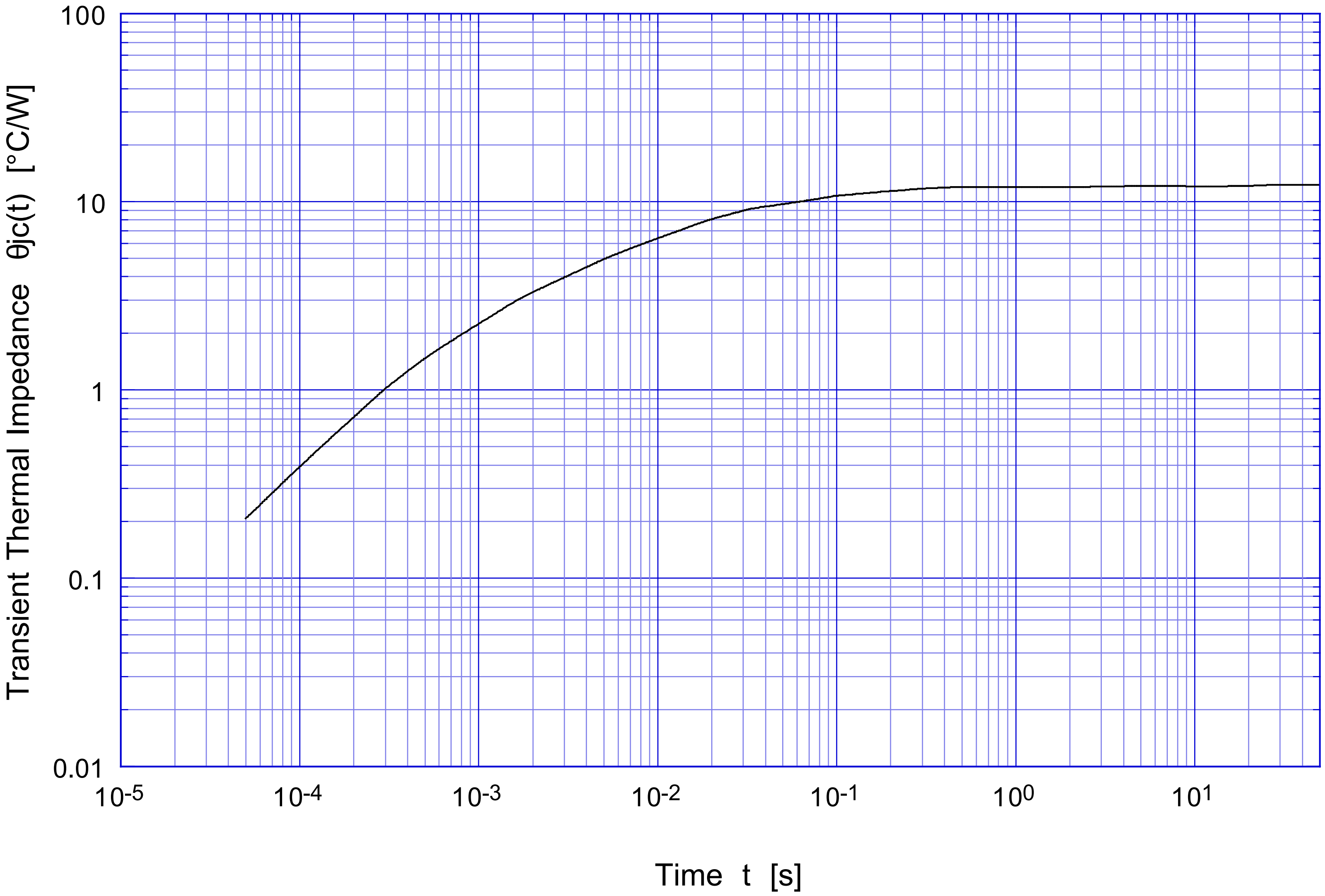
2SC4978 Switching Time - I_C



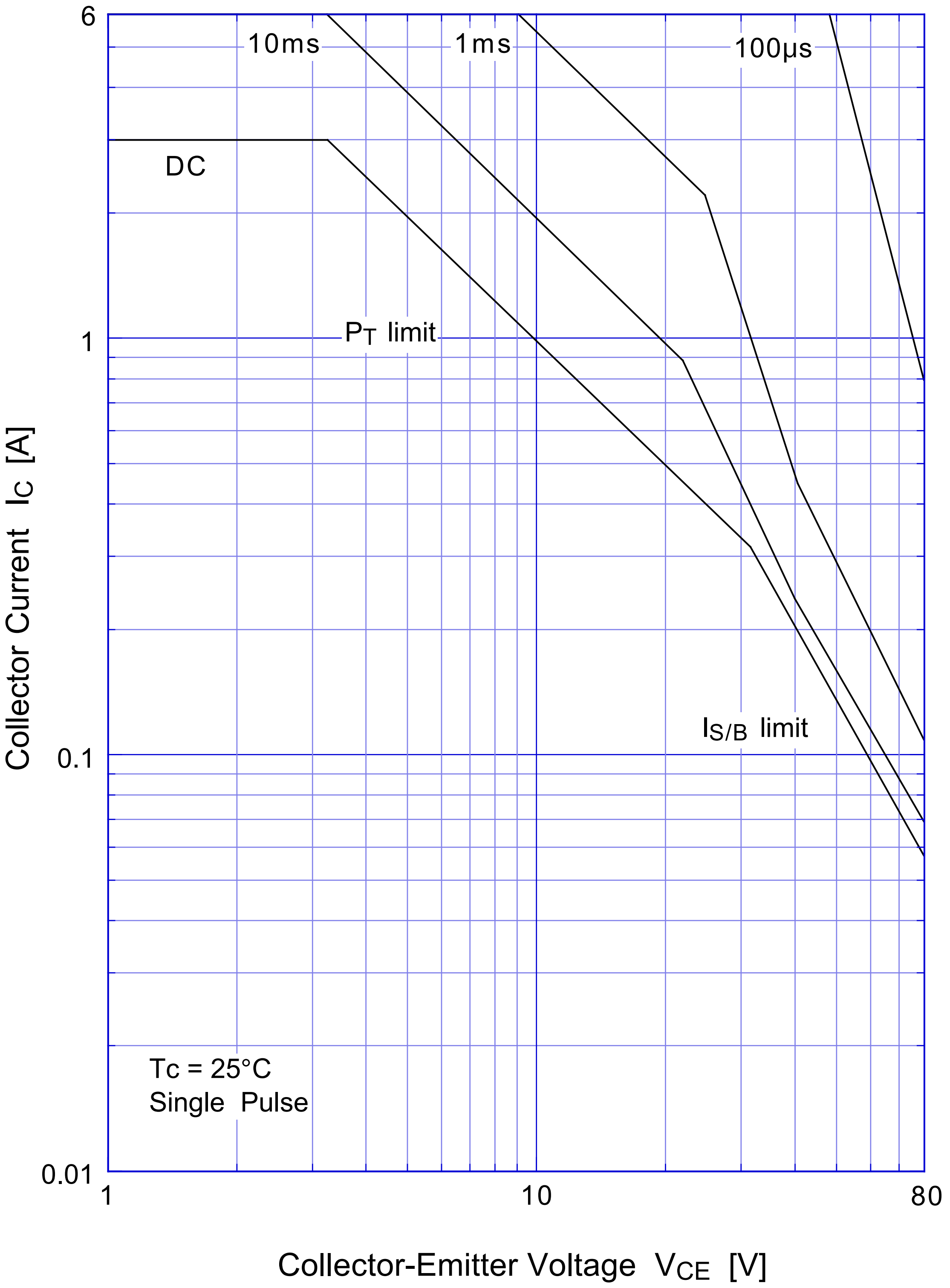
2SC4978 Switching Time - Tc



2SC4978 Transient Thermal Impedance



2SC4978 Forward Bias SOA



2SC4978 Collector Current Derating