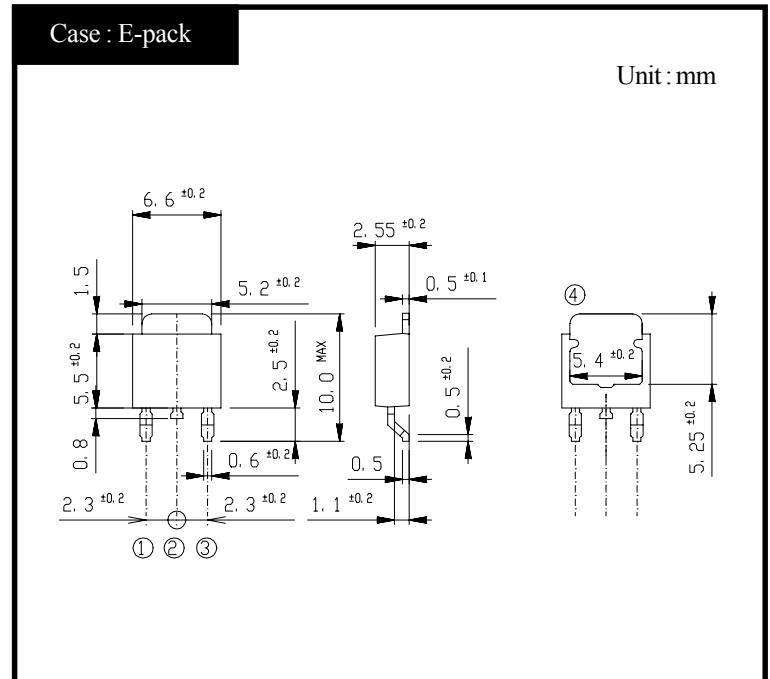


2SC4978
(TE3S8)

3A NPN

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings

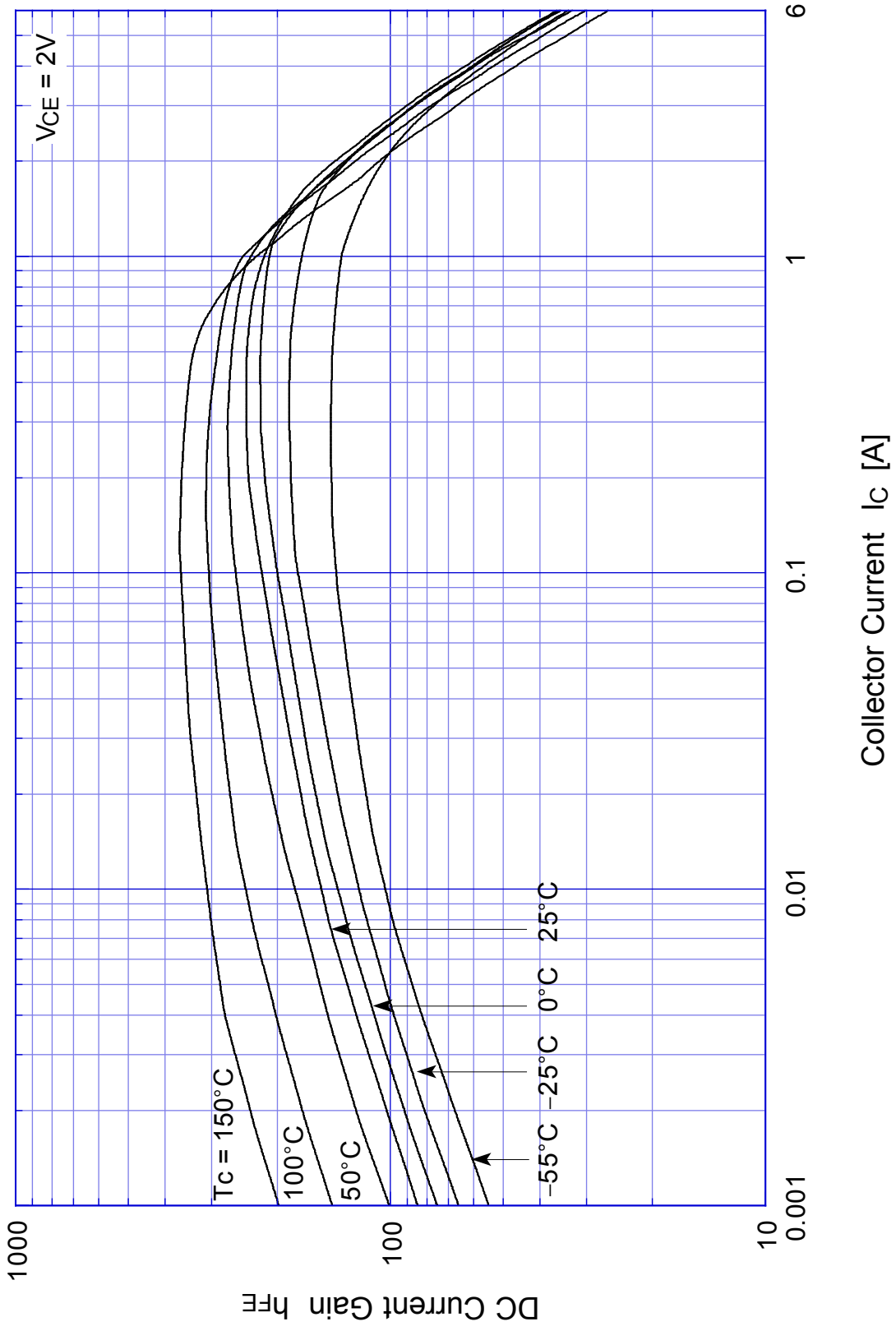
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T_{stg}		-55~150	°C
Junction Temperature	T_j		150	°C
Collector to Base Voltage	V_{CBO}		100	V
Collector to Emitter Voltage	V_{CEO}		80	V
Emitter to Base Voltage	V_{EBO}		7	V
Collector Current DC	I_C		3	A
Collector Current Peak	I_{CP}		6	A
Base Current DC	I_B		1	A
Base Current Peak	I_{BP}		1.5	A
Total Transistor Dissipation	P_T	$T_c = 25^\circ\text{C}$	10	W

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

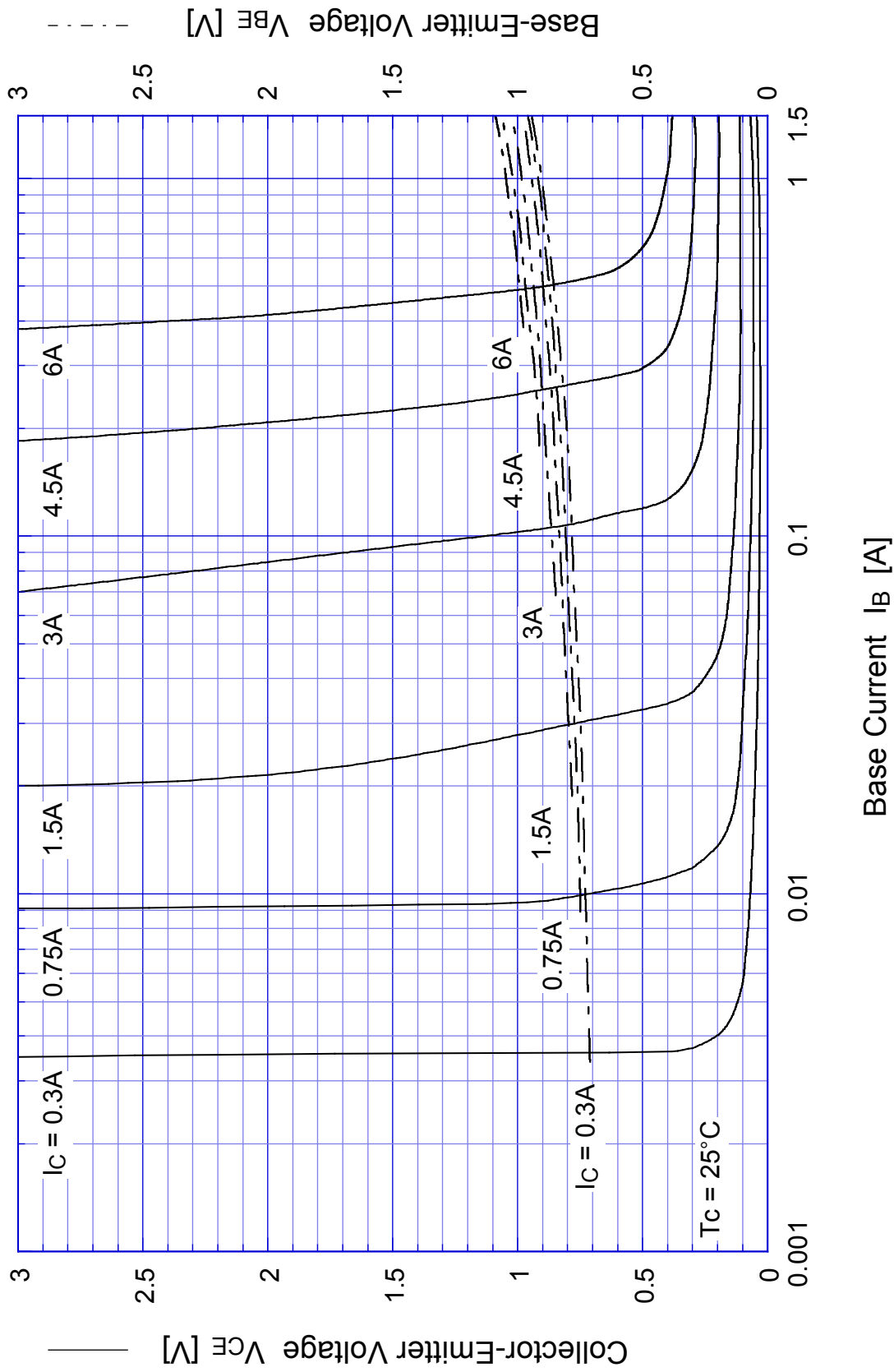
Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 0.05A$	Min 80	V
Collector Cutoff Current	I_{CBO}	At rated Voltage	Max 0.1	mA
	I_{CEO}		Max 0.1	
Emitter Cutoff Current	I_{EBO}	At rated Voltage	Max 0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 1.5A$	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	°C/W
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 0.3A$	TYP 50	MHz
Turn on Time	t_{on}	$I_C = 1.5A$ $I_{B1} = 0.15A, I_{B2} = 0.15A$ $R_L = 20\Omega, V_{BB2} = 4V$	Max 0.3	μs
Storage Time	t_s		Max 1.5	
Fall Time	t_f		Max 0.2	

2SC4978

$h_{FE} - I_c$

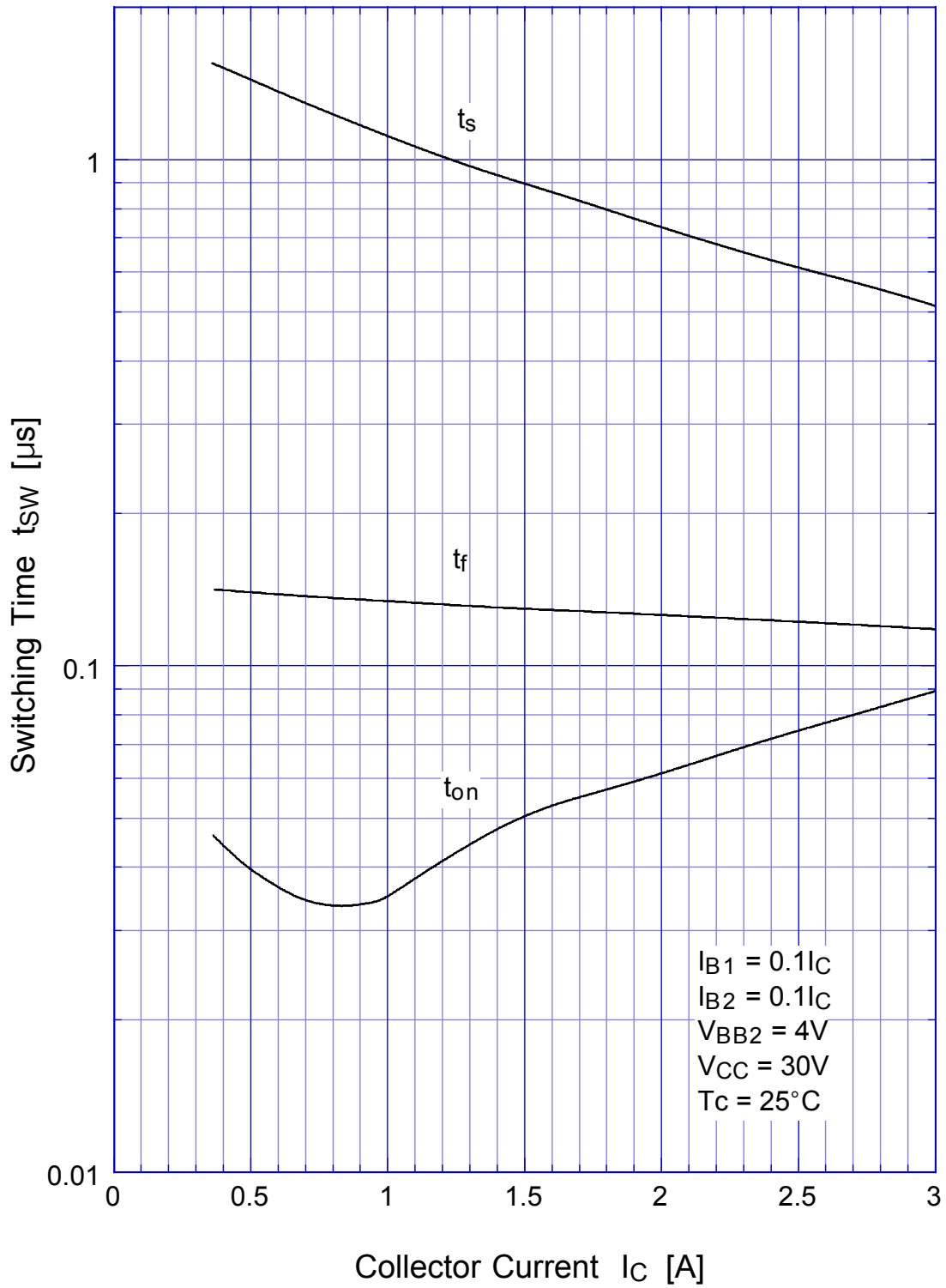


2SC4978 Saturation Voltage



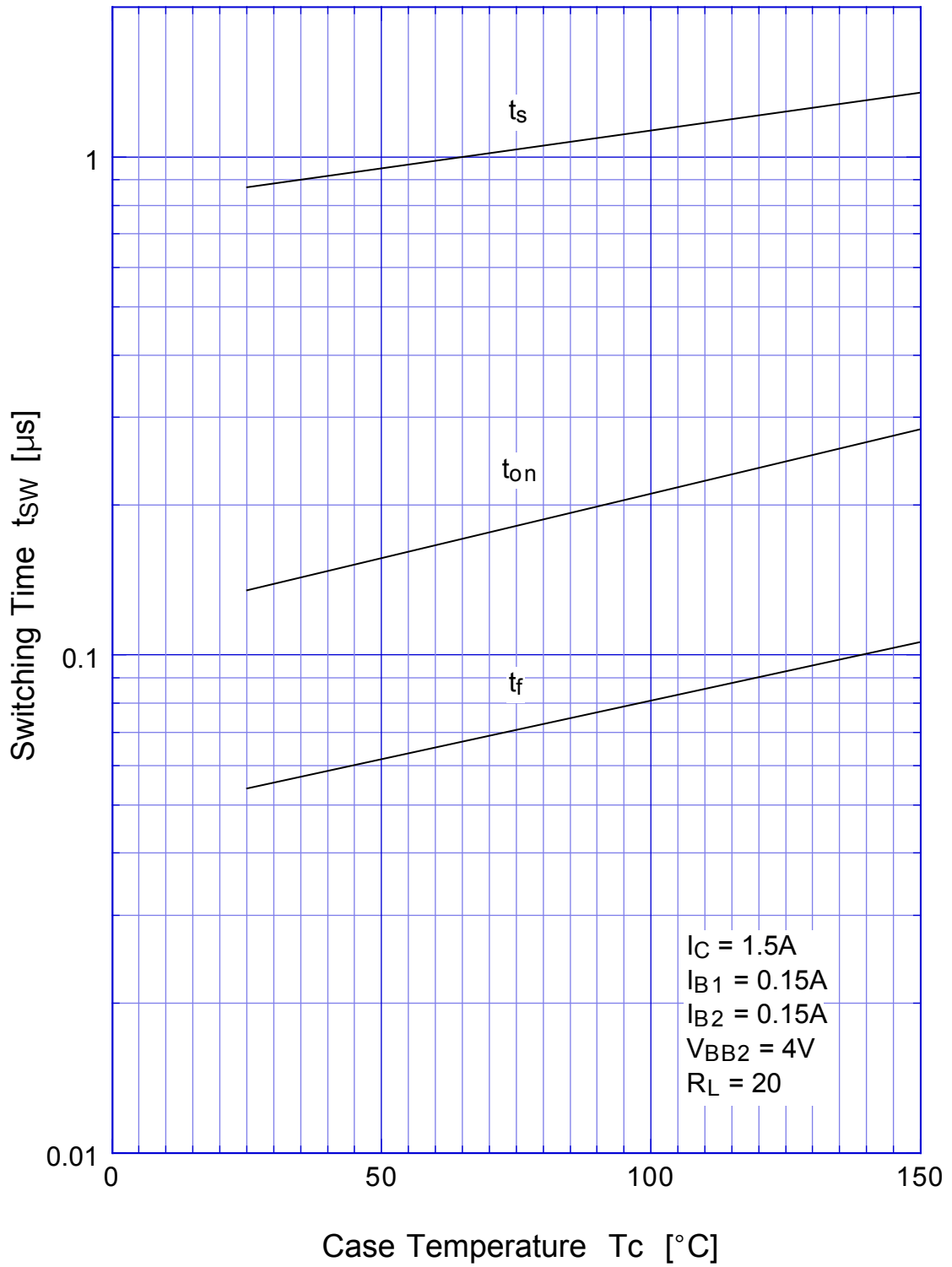
2SC4978

Switching Time - I_C

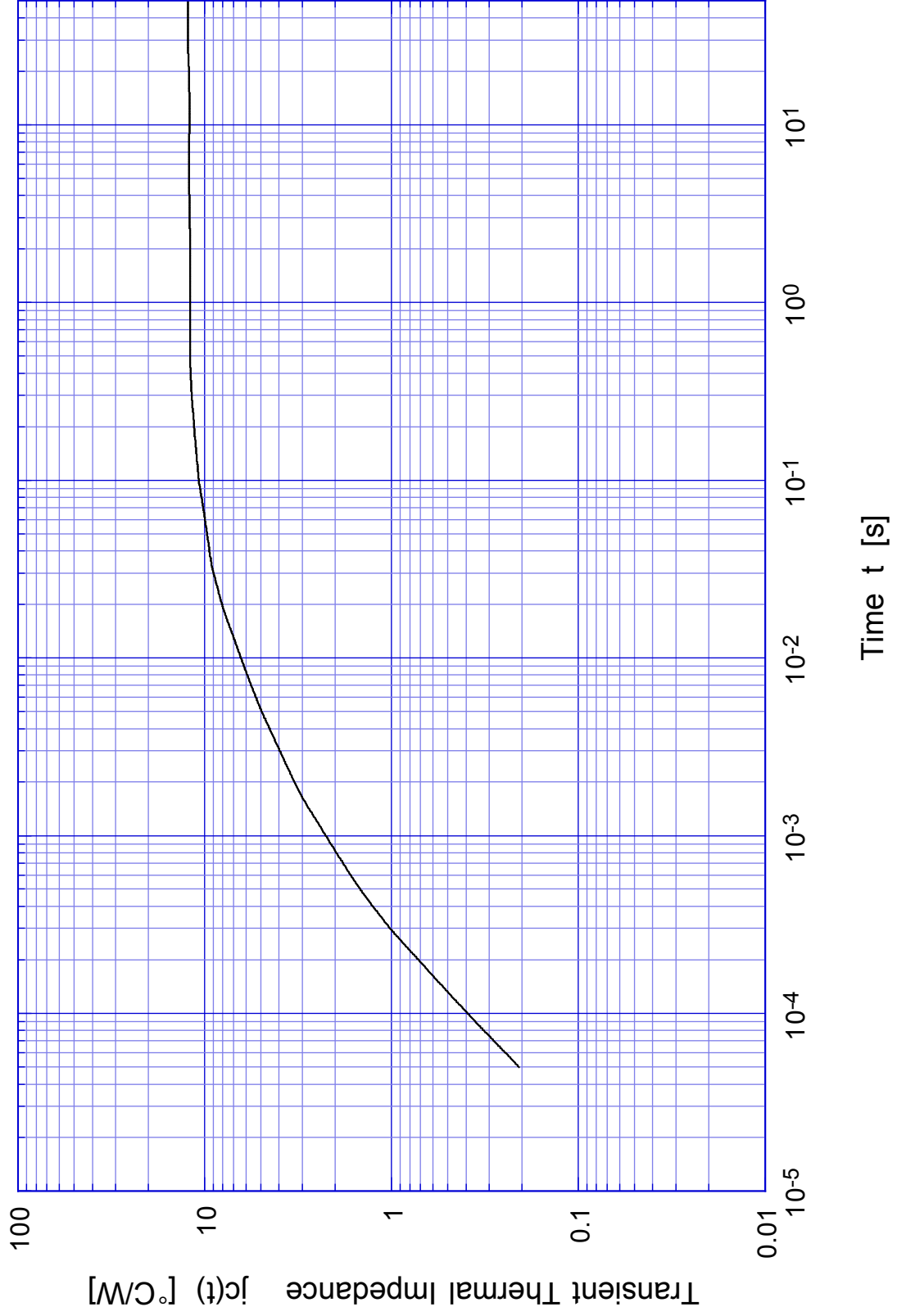


2SC4978

Switching Time - Tc

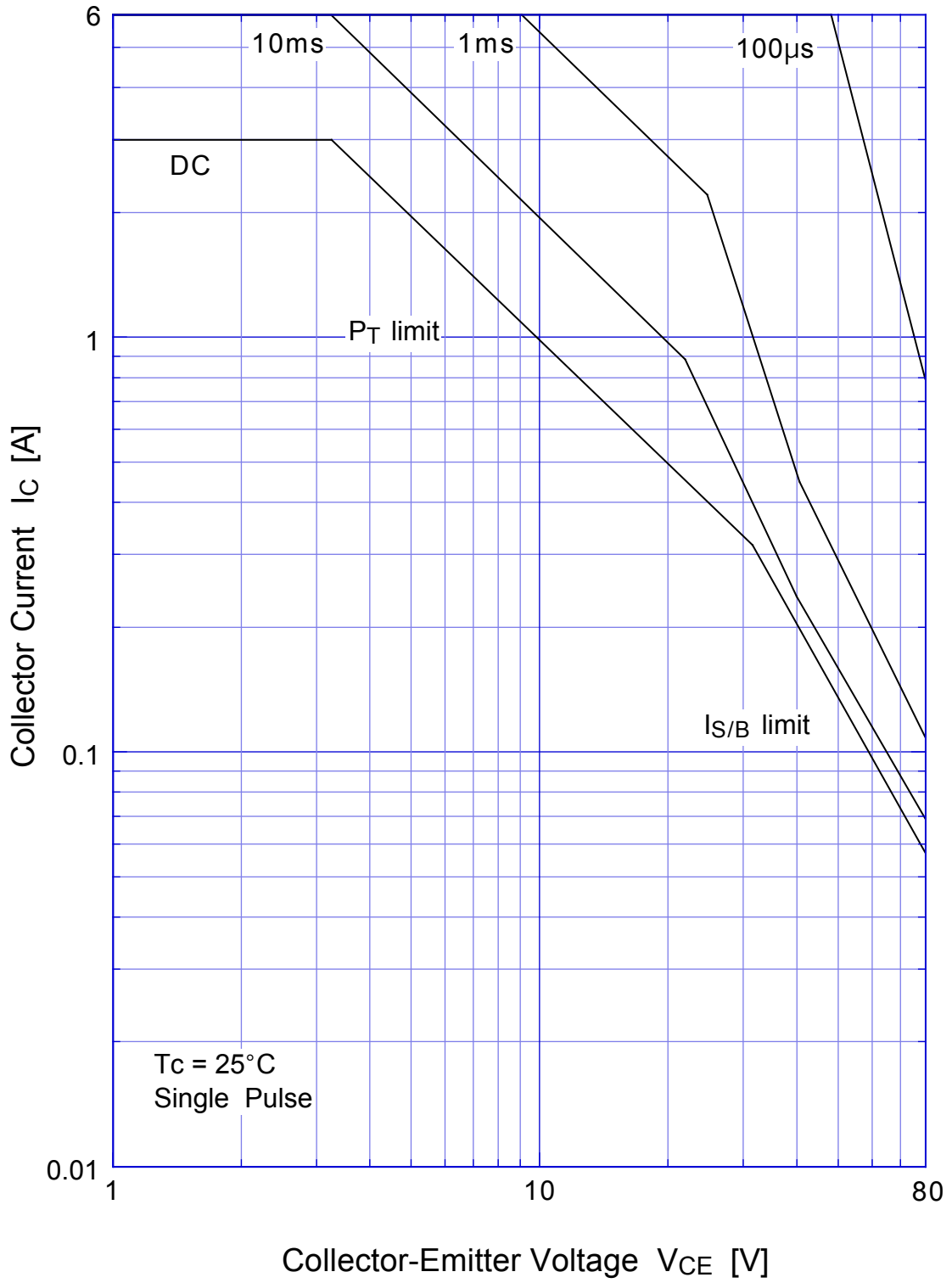


2SC4978 Transient Thermal Impedance



2SC4978

Forward Bias SOA



2SC4978 Collector Current Derating

