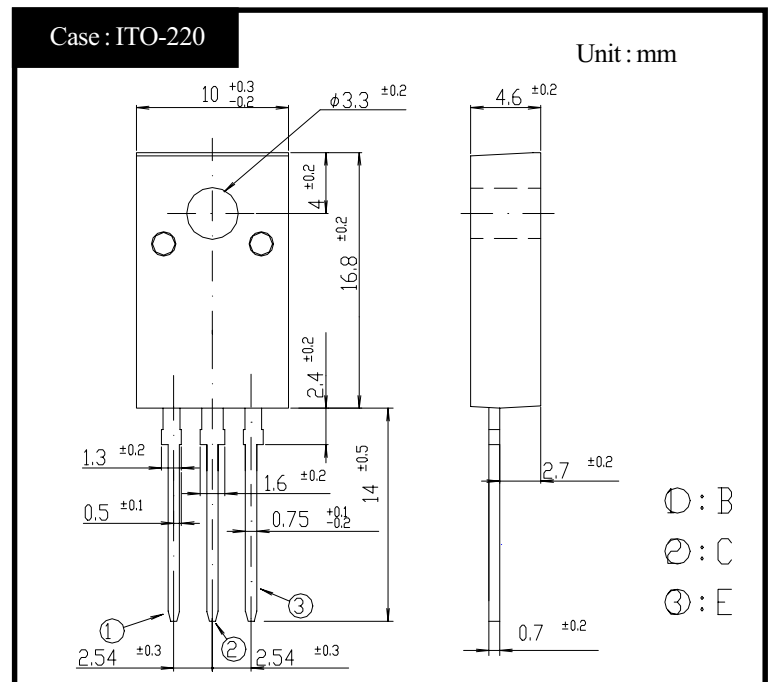


Darlington Transistor

2SD1790 (TP4L6Z)

$\pm 4A$ NPN

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings

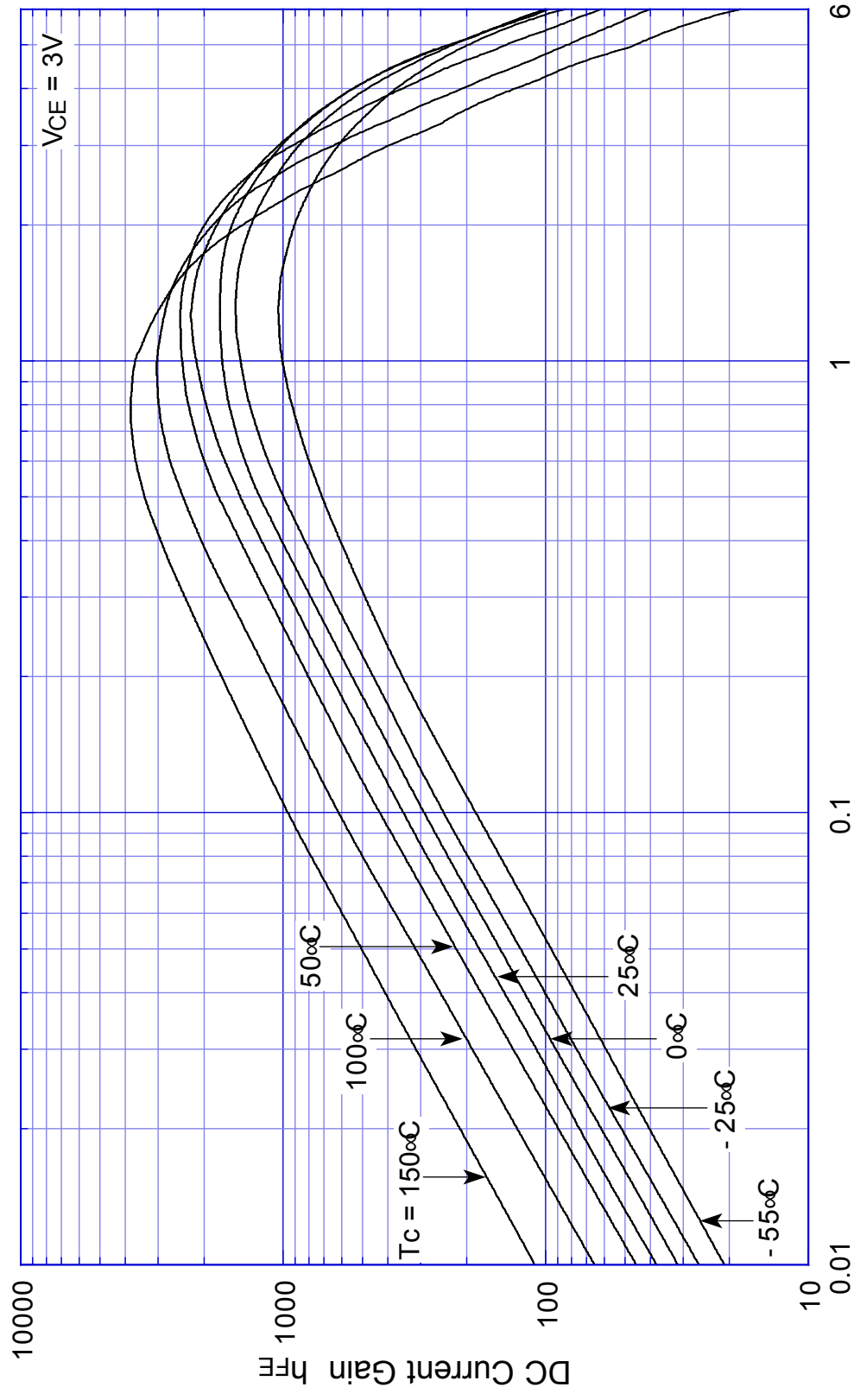
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T _{stg}		-55~+150	°C
Junction Temperature	T _j		+150	°C
Collector to Base Voltage	V _{CBO}		60 ^{±10}	V
Collector to Emitter Voltage	V _{CEO}		60 ^{±10}	V
Emitter to Base Voltage	V _{EBO}		7	V
Collector Current DC	I _C		±4	A
Collector Current Peak	I _{CP}		±6	A
Base Current DC	I _B		0.3	A
Base Current Peak	I _{BP}		0.5	A
Total Transistor Dissipation	P _T	T _C = 25°C	25	W
Dielectric Strength	V _{dis}	Terminals to case AC 1 minute	2	kV
Mounting Torque	TOR	(Recommended torque : 0.3N·m)	0.5	N·m

●Electrical Characteristics (Tc=25°C)

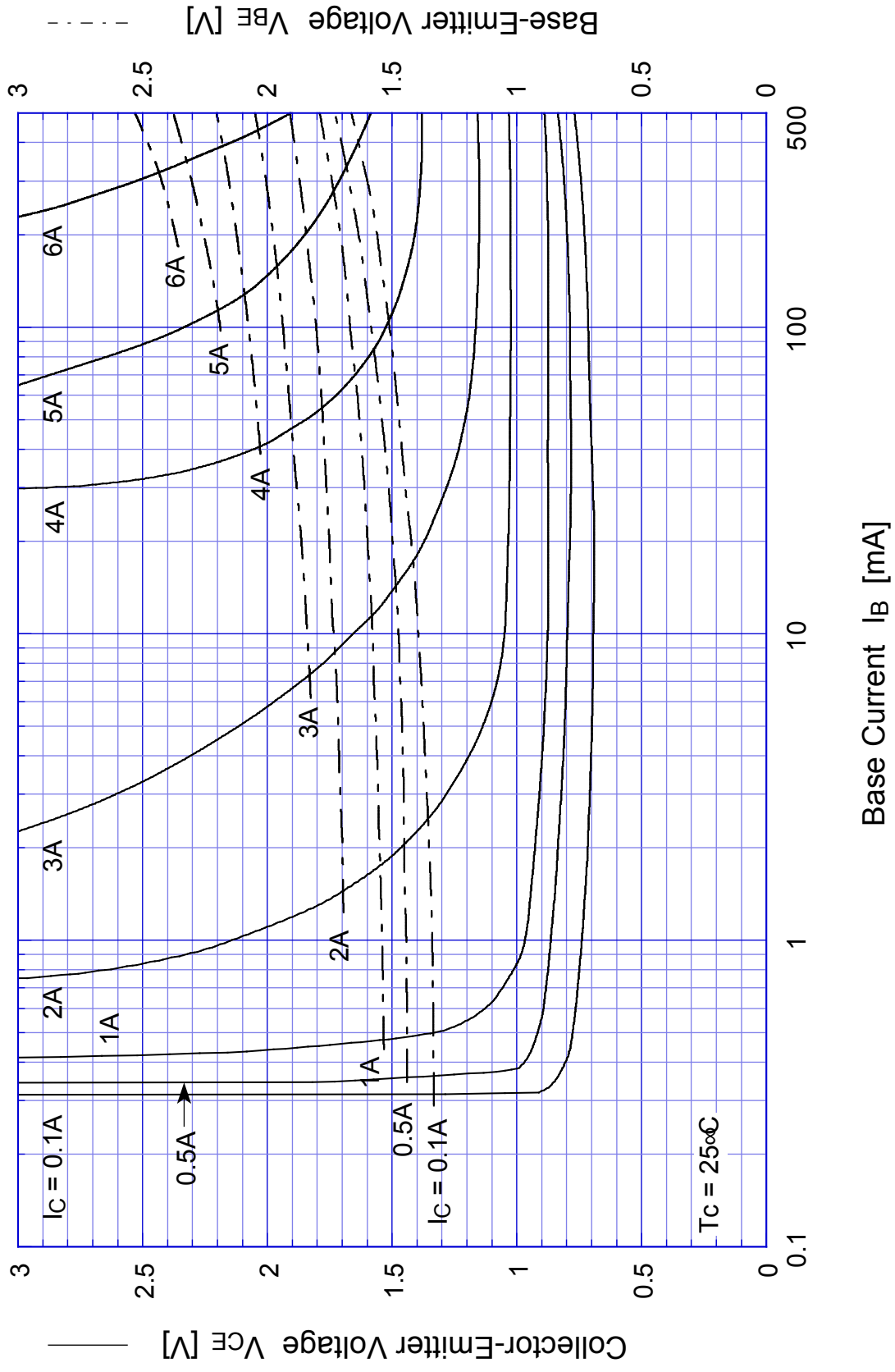
Item	Symbol	Conditions	Ratings	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 40V$	Max 0.1	mA
	I_{CEO}	$V_{CE} = 40V$	Max 0.1	
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7V$	Max 5	mA
DC Current Gain	h_{FE}	$V_{CE} = 3V, I_C = 1A$	Min 1,500	
			Max 30,000	
Collector to Emitter Saturation Voltage	$V_{CE}(sat)$	$I_C = 1A$	Max 1.5	V
Base to Emitter Saturation Voltage	$V_{BE}(sat)$	$I_B = 2mA$	Max 2.0	V
Thermal Resistance	θ_{jc}	Junction to case	Max 5.0	$^{\circ}C/W$
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 0.4A$	TYP 20	MHz
Turn on Time	t_{on}	$I_C = 1A$ $I_{B1} = I_{B2} = 2mA$ $R_L = 25\Omega$	Max 2	μs
Storage Time	t_s		Max 12	
Fall Time	t_f		Max 5	

2SD1790

$h_{FE} - I_C$

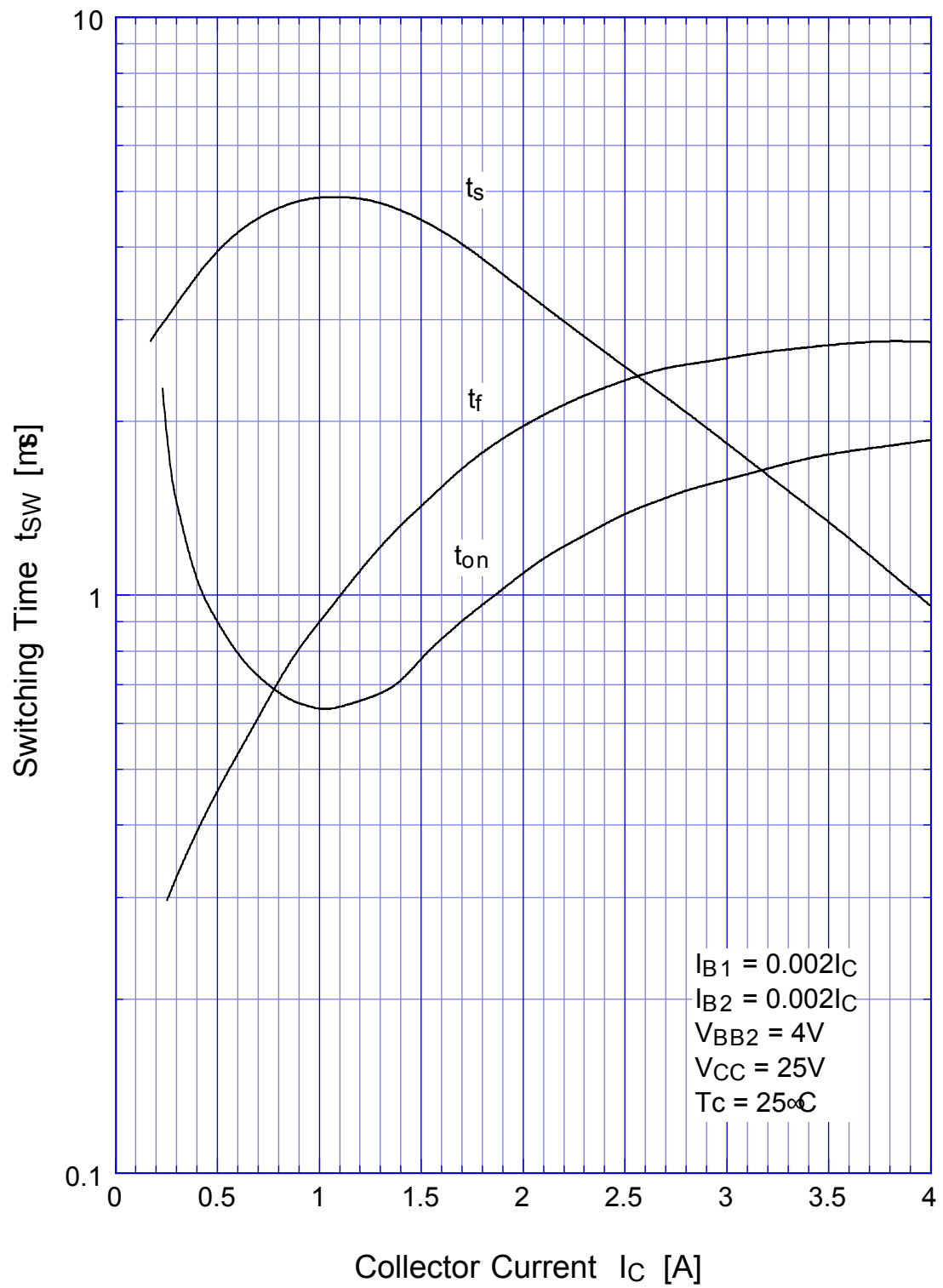


2SD1790 Saturation Voltage



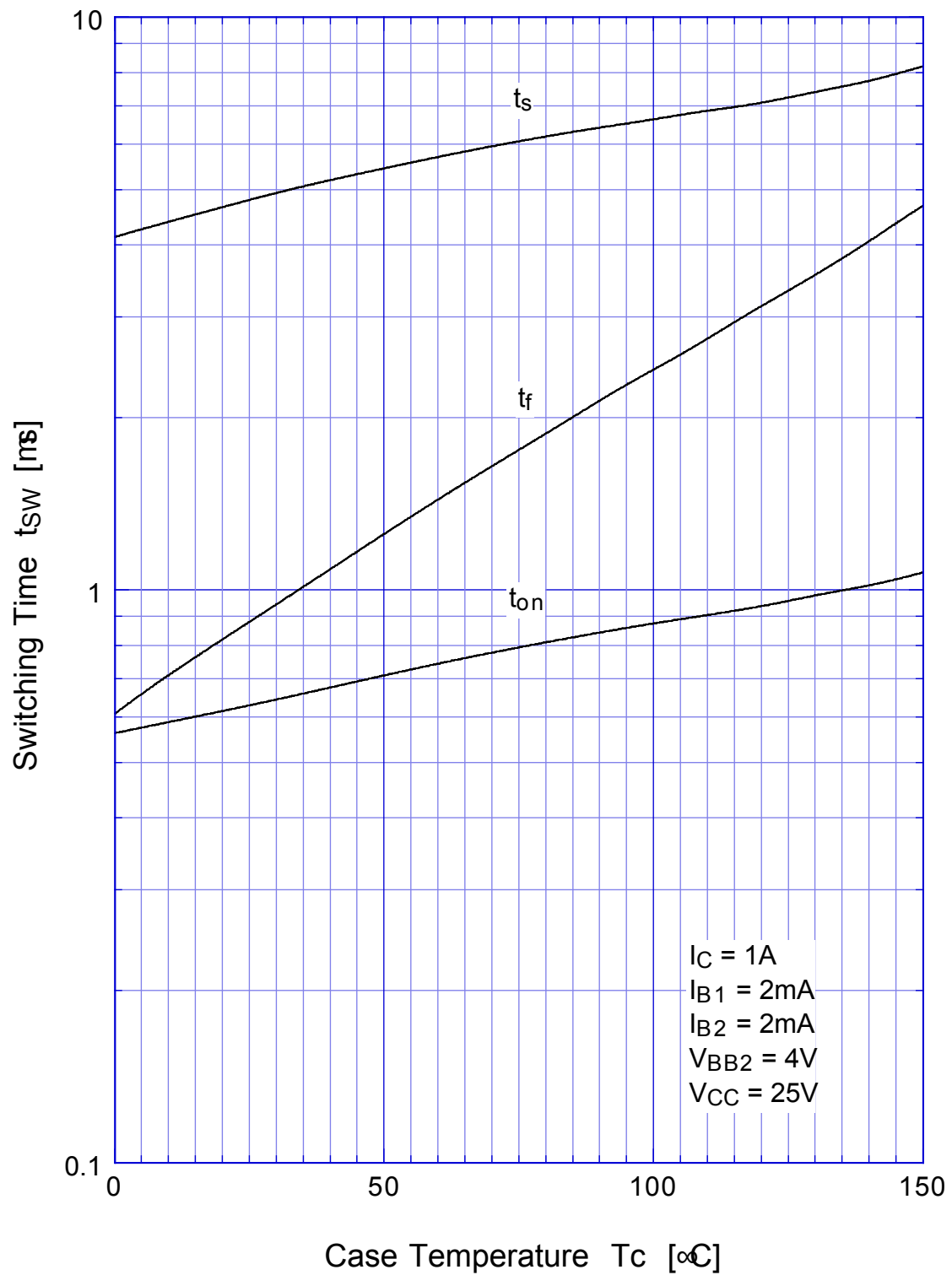
2SD1790

Switching Time - I_C

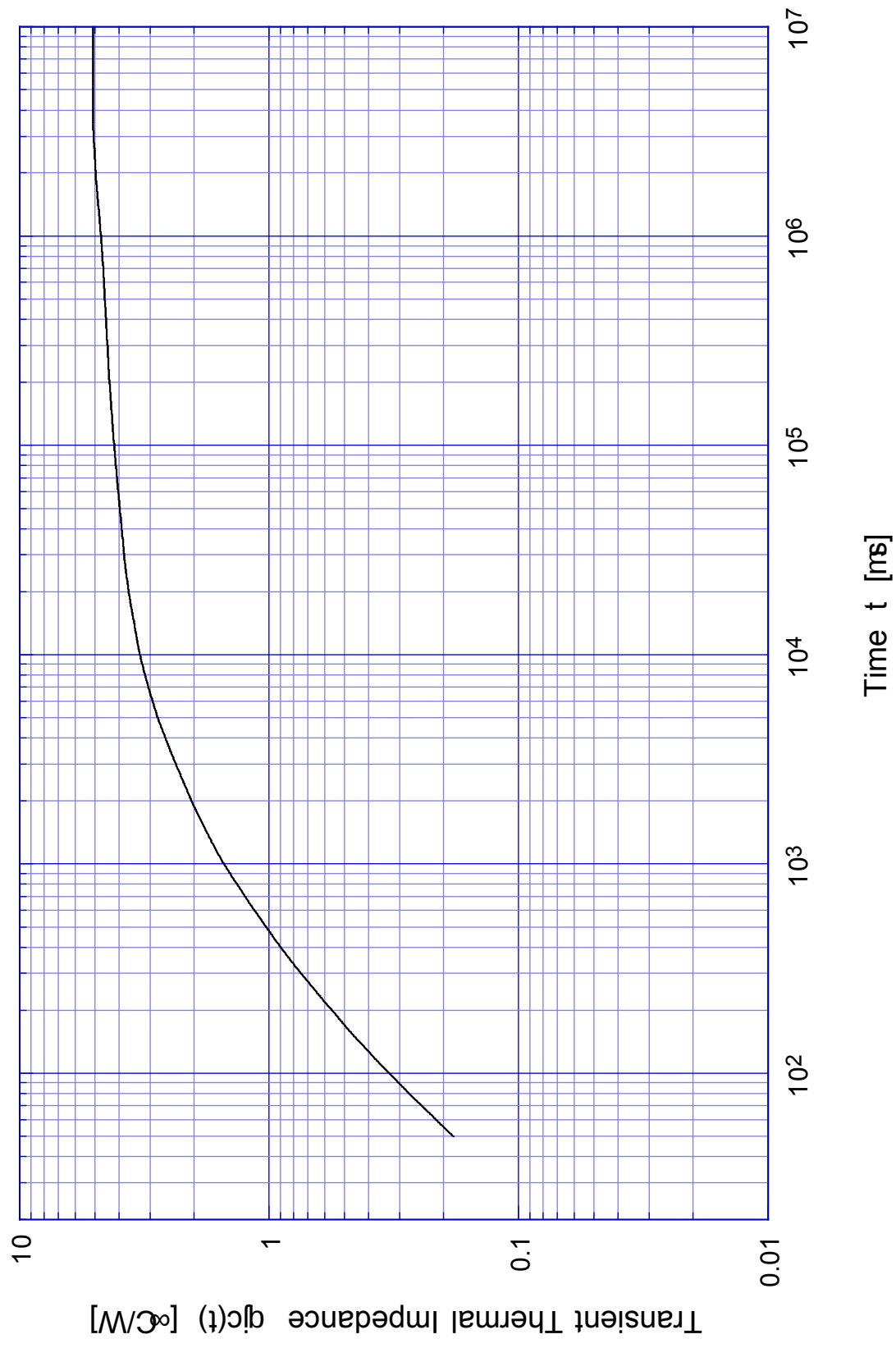


2SD1790

Switching Time - T_c

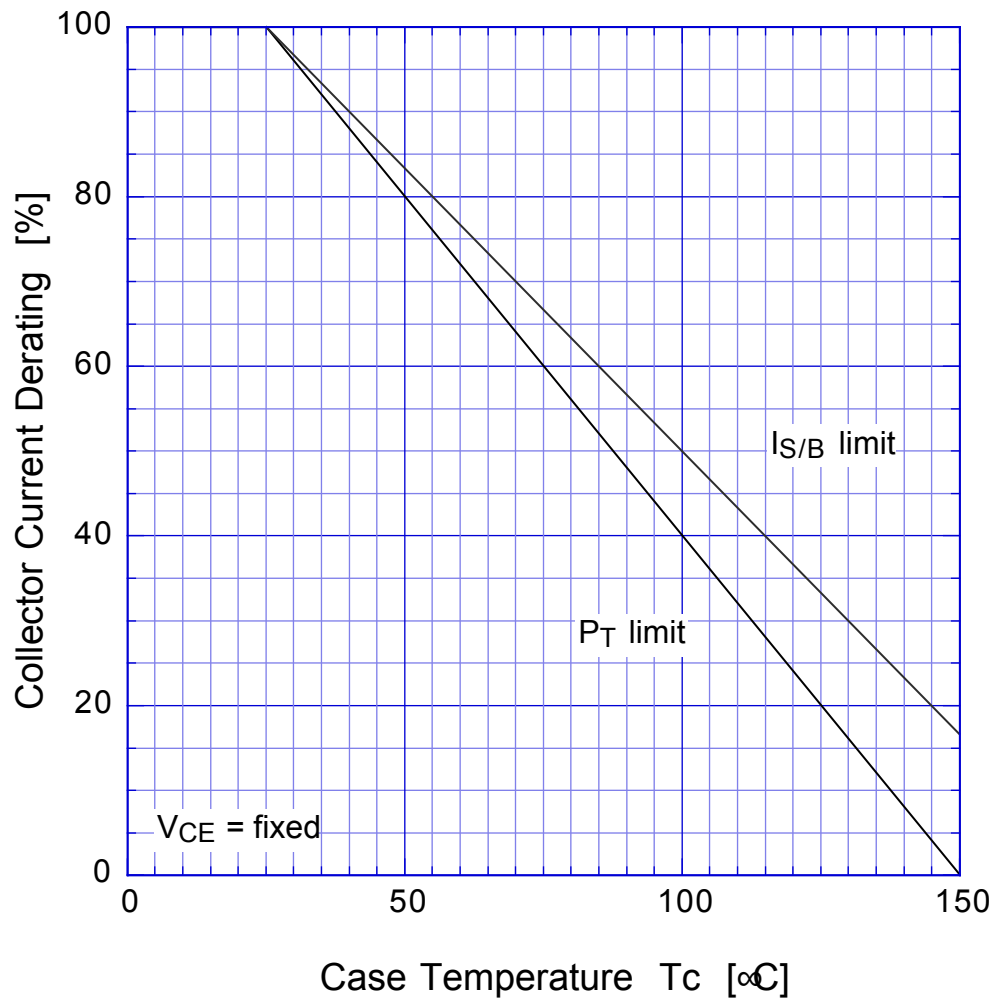


2SD1790 Transient Thermal Impedance



2SD1790

Collector Current Derating



2SD1790

$V_{EC} - I_C$

