

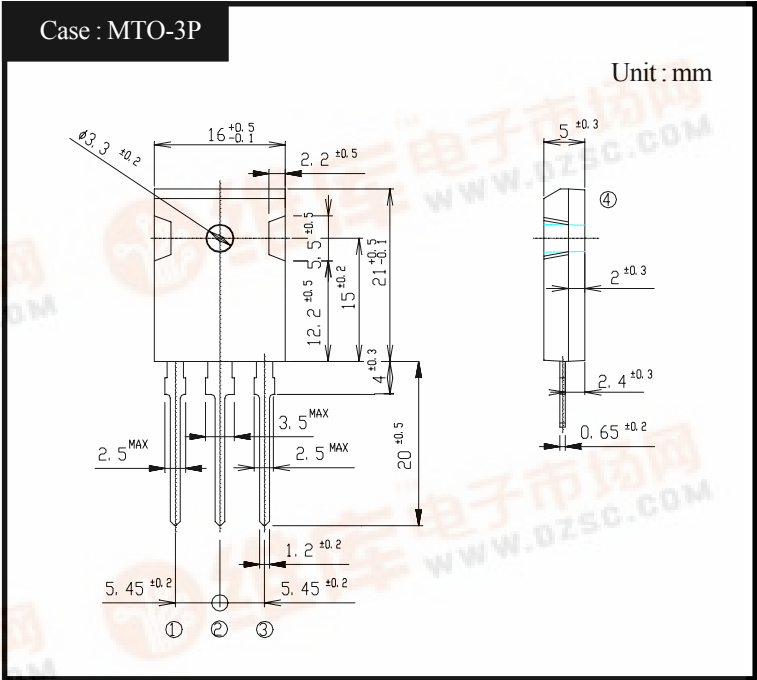
SHINDENGEN

Darlington Transistor

2SD1027
(T15L20)

15A 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 _{CB0}		200	V
Collector to Emitter Voltage	V _{CEO}		200	V
Emitter to Base Voltage	V _{EBO}		7	V
Collector Current DC	I _C		15	A
Collector Current Peak	I _{CP}		22	A
Base Current DC	I _B		1	A
Base Current Peak	I _{BP}		2	A
Total Transistor Dissipation	P _T	T _c = 25°C	100	W
Mounting Torque	TOR	(Recommended torque : 0.5N·m)	0.8	N·m

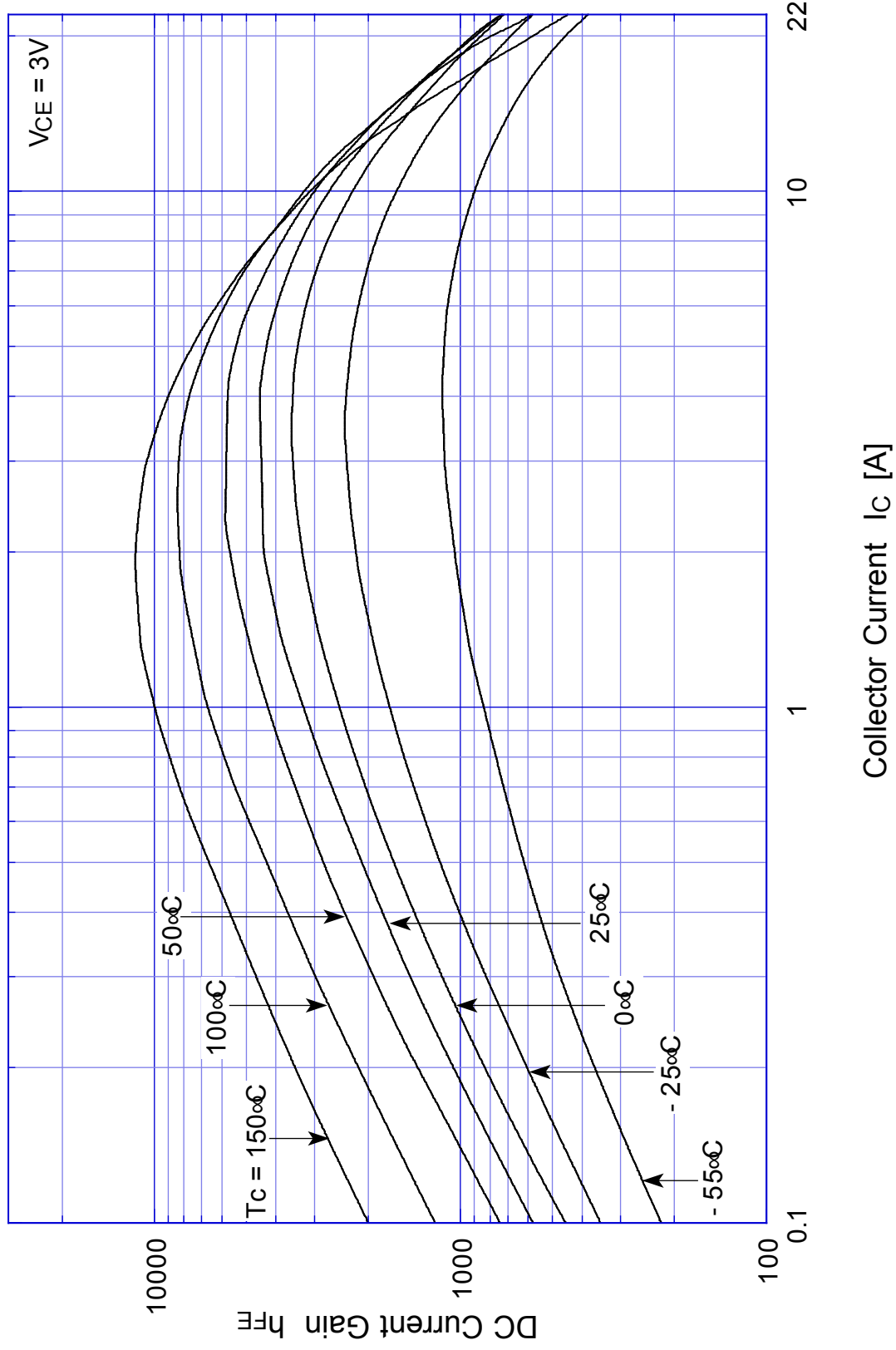
● Electrical Characteristics (T_c=25°C)

Item	Symbol	Conditions	Ratings	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} = 200V	Max 0.1	mA
	I _{CEO}	V _{CE} = 200V	Max 0.1	
Emitter Cutoff Current	I _{EBO}	V _{EB} = 7V	Max 5	mA
DC Current Gain	h _{FE}	V _{CE} = 3V, I _C = 10A	Min 1,500	
			Max 30,000	
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C = 10A	Max 1.5	V
Base to Emitter Saturation Voltage	V _{BE(sat)}	I _B = 30mA	Max 2.0	V
Thermal Resistance	θ _{jc}	Junction to case	Max 1.25	°C/W
Transition Frequency	f _T	V _{CE} = 10V, I _C = 1.5A	TYP 20	MHz
Turn on Time	ton	I _C = 10A I _{B1} = I _{B2} = 30mA R _L = 3Ω V _{BB2} = 4V	Max 2	μs
Storage Time	ts		Max 8	
	tf		Max 5	

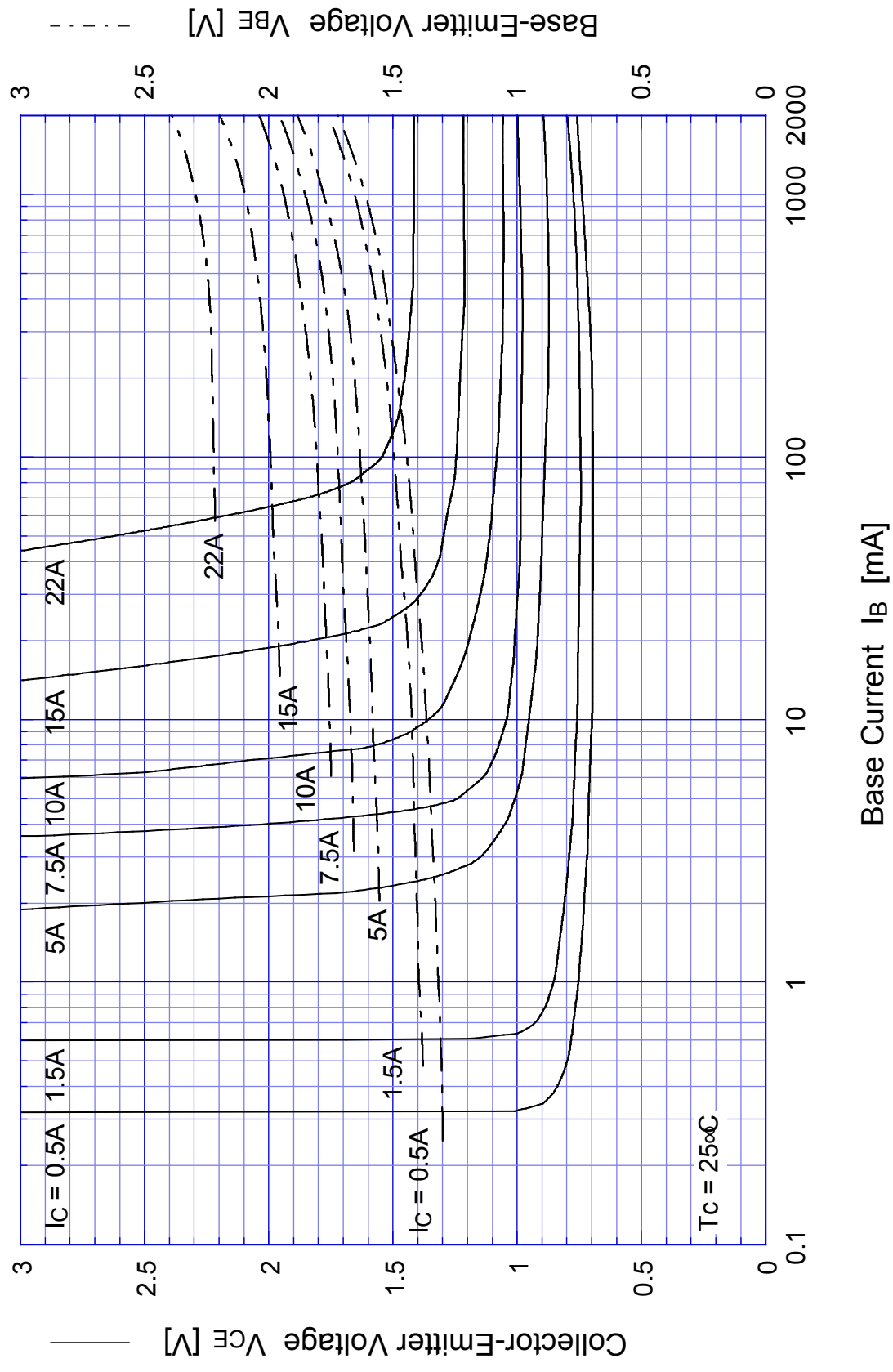


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$h_{FE} - I_C$

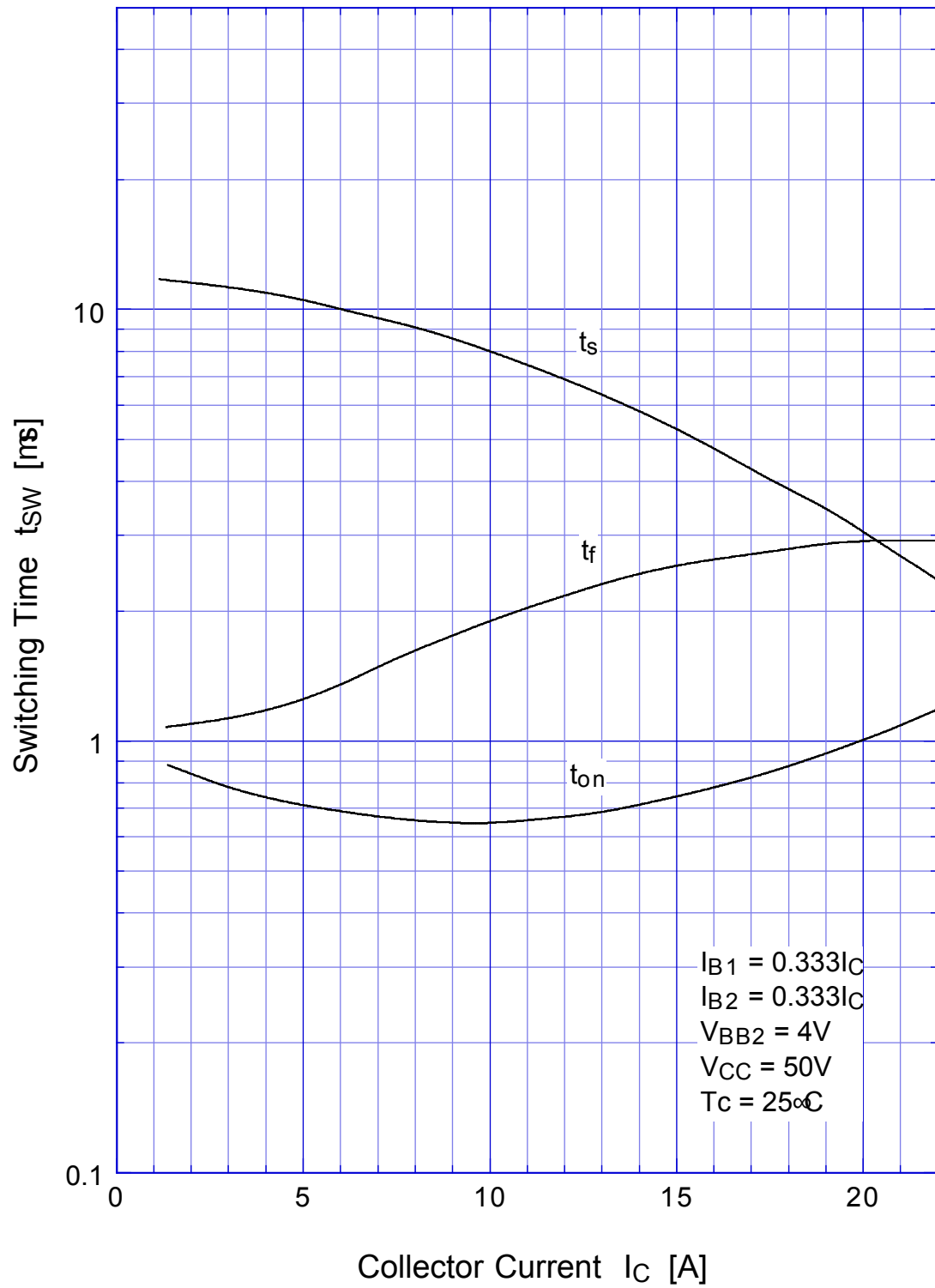


2SD1027 Saturation Voltage



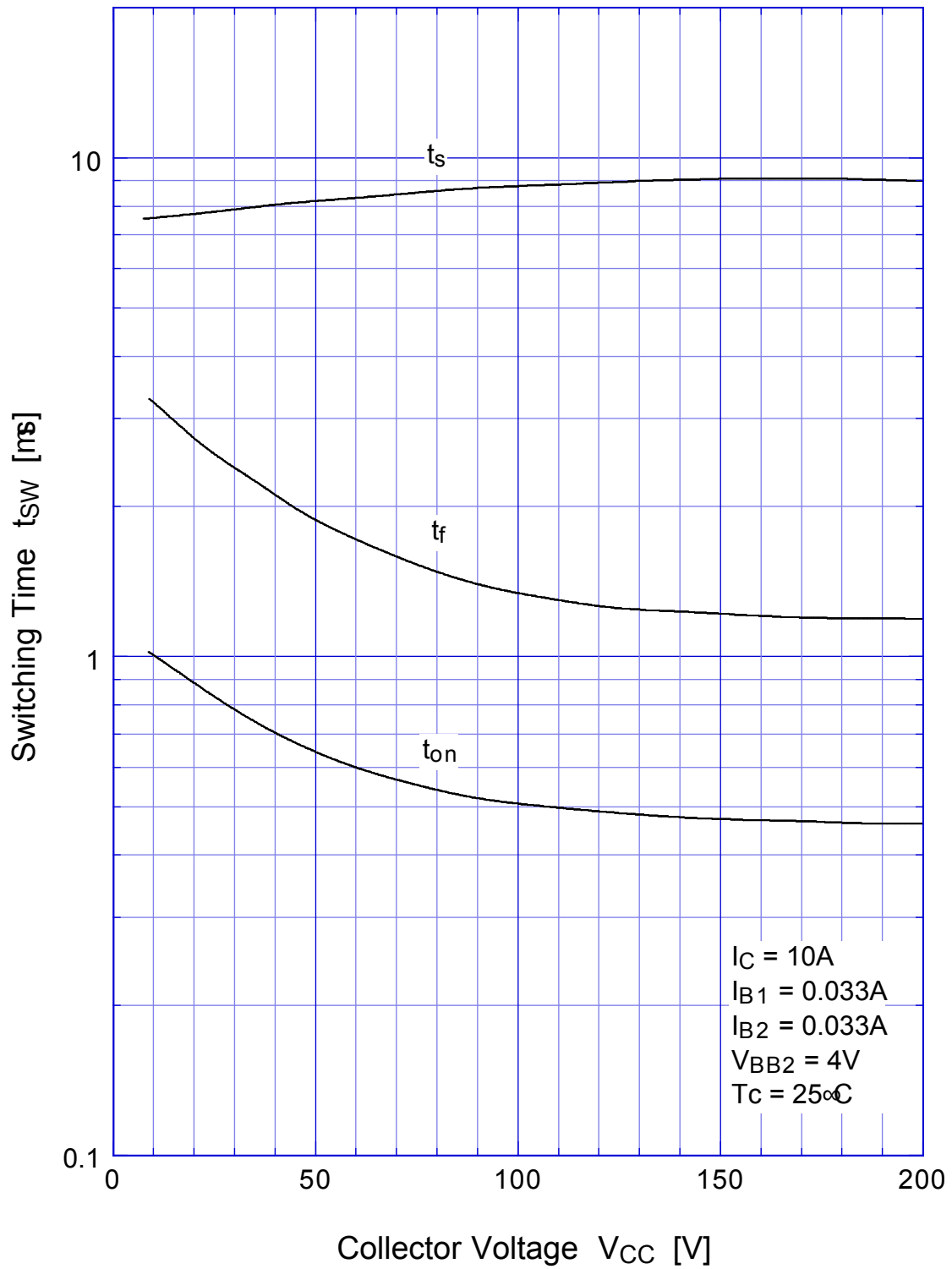
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Switching Time - I_C



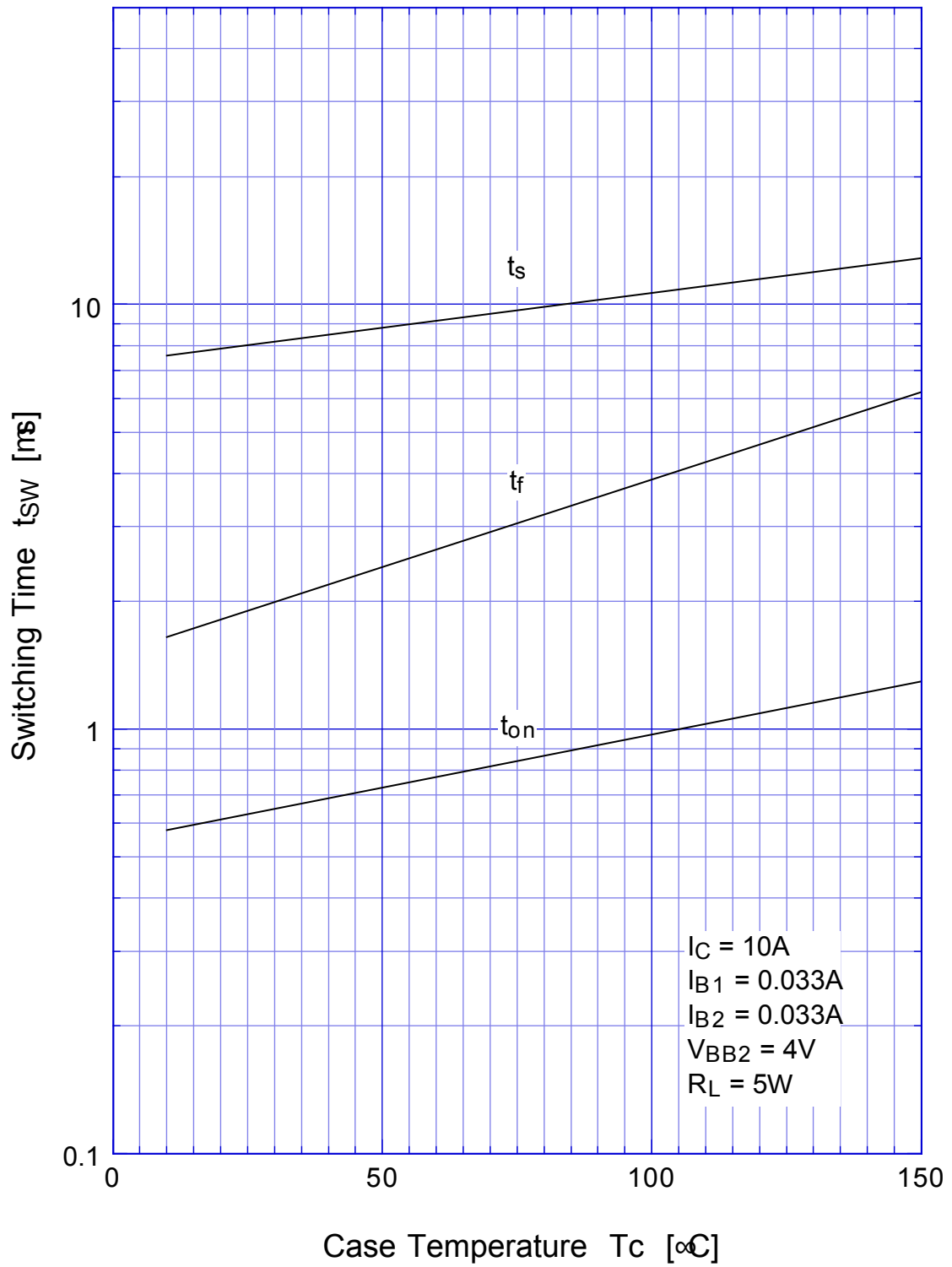
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Switching Time

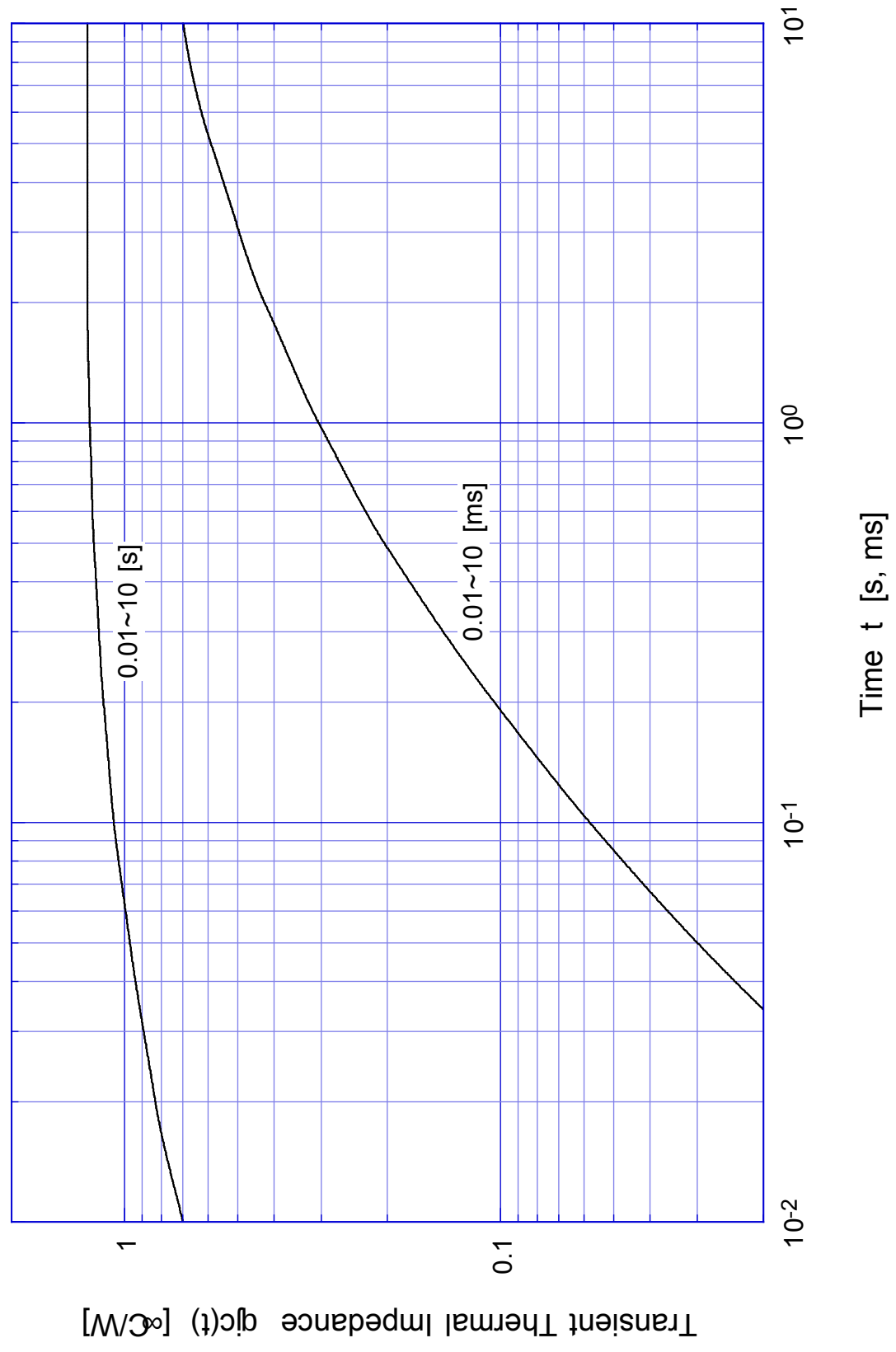


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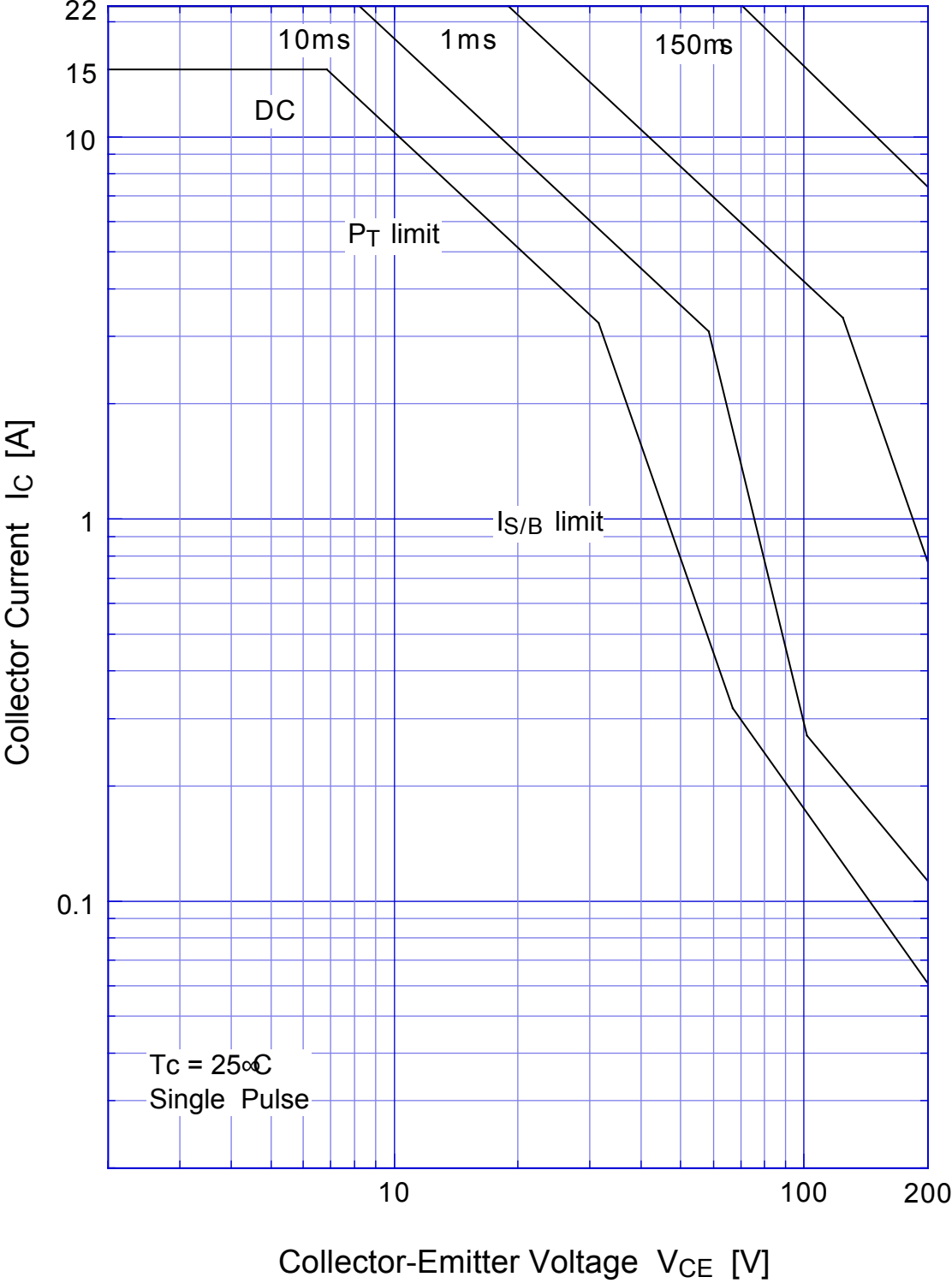
Switching Time - T_c



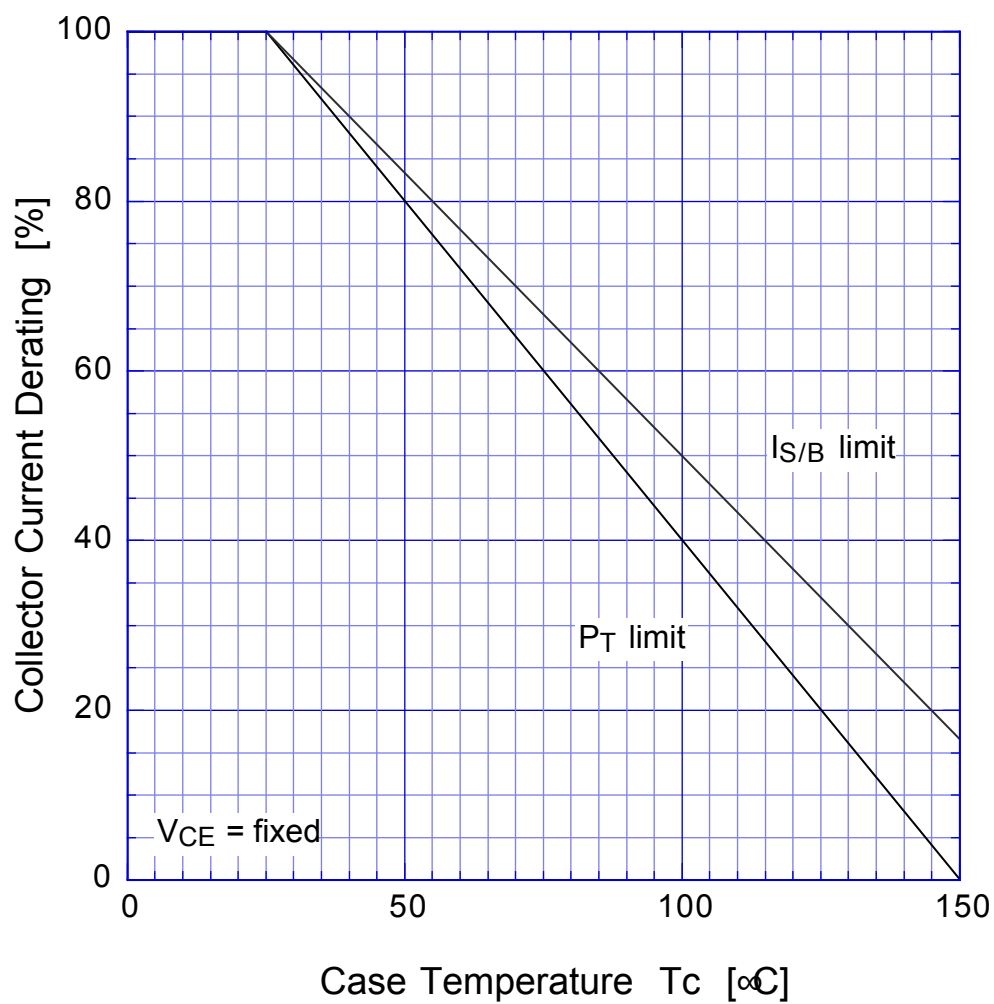
2SD1027 Transient Thermal Impedance



2SD1027 Forward Bias SOA



2SD1027 Collector Current Derating



2SD1027

Reverse Bias SOA

