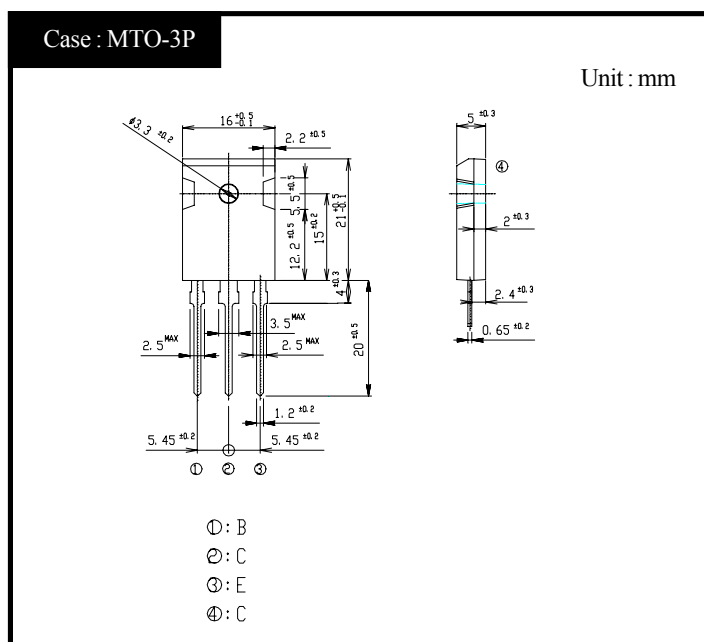


2SC4059 (T15W45FX)

15A NPN

OUTLINE DIMENSIONS



RATINGS

● Absolute Maximum Ratings

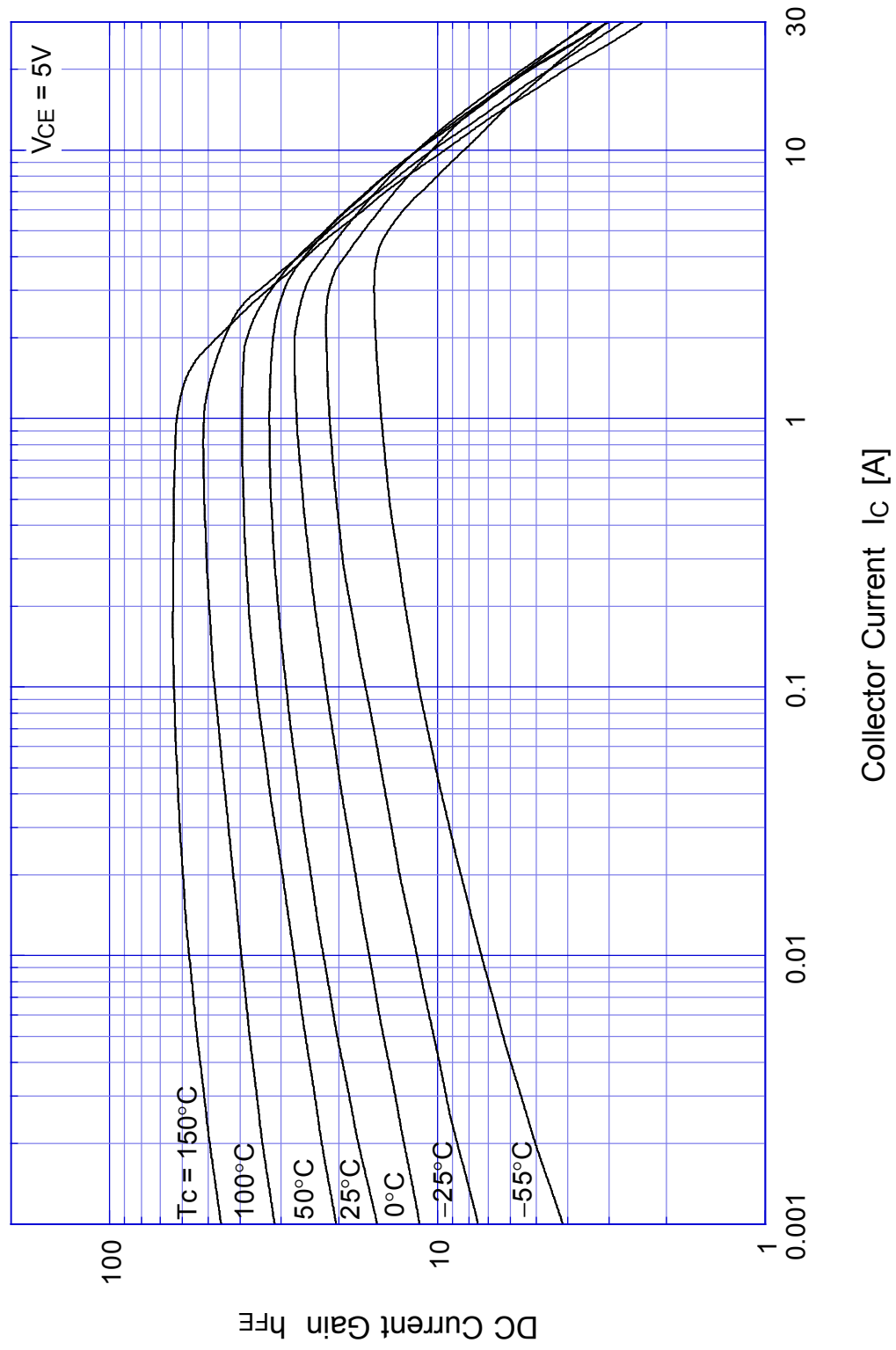
Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	T _{stg}		-55~150	°C
Junction Temperature	T _j		150	°C
Collector to Base Voltage	V _{CBO}		600	V
Collector to Emitter Voltage	V _{CEO}		450	V
	V _{CEX}	V _{EB} = 5V	600	
Emitter to Base Voltage	V _{EBO}		7	V
Collector Current DC	I _C		15	A
Collector Current Peak	I _{CP}		30	
Base Current DC	I _B		6	A
Base Current Peak	I _{BP}		12	
Total Transistor Dissipation	P _T	T _c = 25°C	130	W
Mounting Torque	TOR		0.8	N·m

● Electrical Characteristics (T_c=25°C)

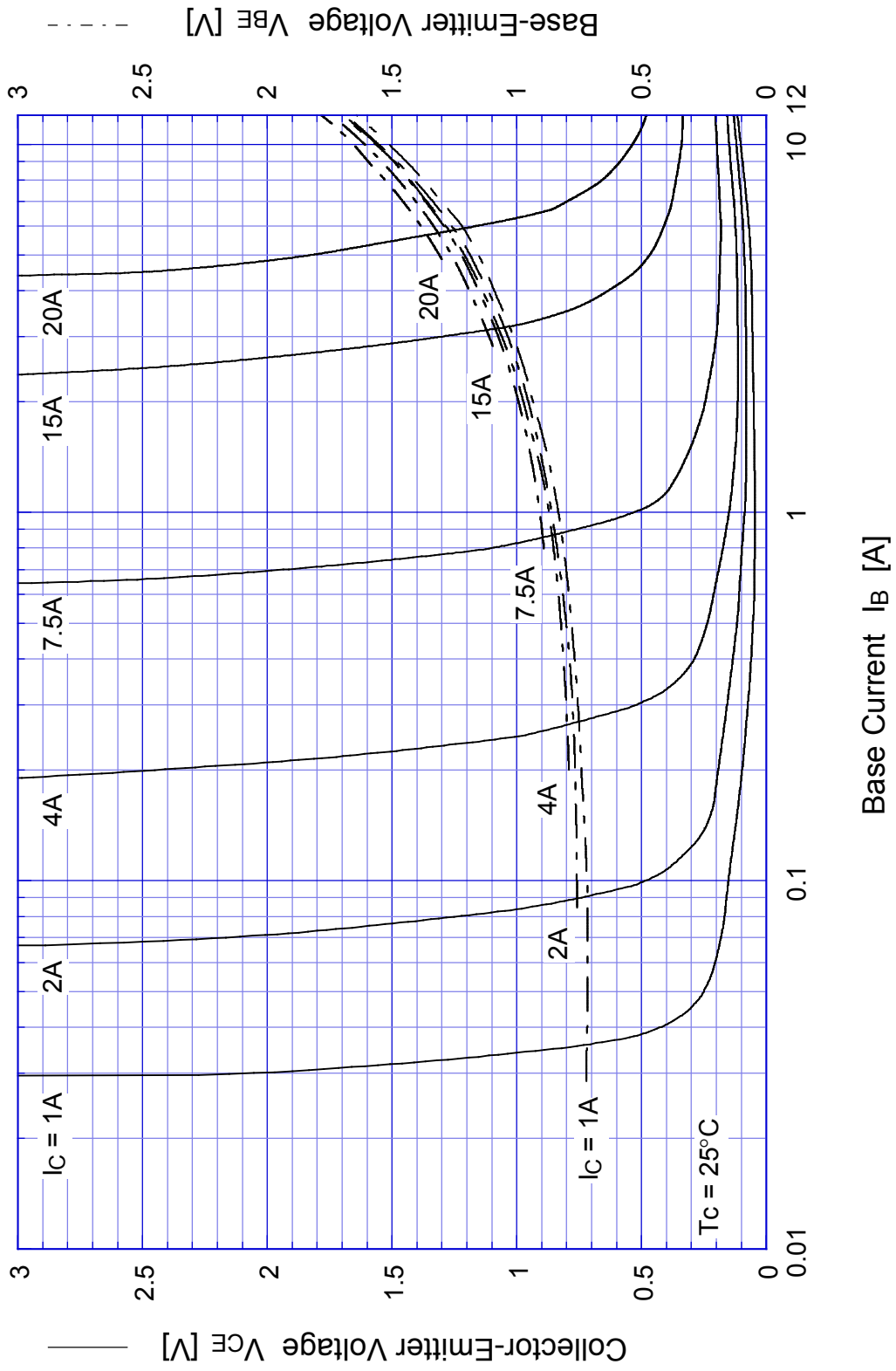
Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	V _{CEO(sus)}	I _C = 0.2A	Min 450	V
Collector Cutoff Current	I _{CBO}	At rated Voltage	Max 0.1	mA
	I _{CEO}		Max 0.1	
Emitter Cutoff Current	I _{EBO}	At rated Voltage	Max 0.1	mA
DC Current Gain	h _{FE}	V _{CE} = 5V, I _C = 7.5A	Min 10	
	h _{FEL}	V _{CE} = 5V, I _C = 1mA	Min 5	
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C = 7.5A	Max 1.0	V
Base to Emitter Saturation Voltage	V _{BE(sat)}	I _B = 1.5A	Max 1.5	V
Thermal Resistance	θ _{jc}	Junction to case	Max 0.96	°C/W
Transition Frequency	f _T	V _{CE} = 10V, I _C = 1.5A	STD 20	MHz
Turn on Time	ton	I _C = 7.5A	Max 0.5	μs
Storage Time	ts	I _{B1} = 1.5A, I _{B2} = 3A	Max 2.0	
Fall Time	tf	R _L = 20Ω, V _{BB2} = 4V	Max 0.2	

2SC4059

$h_{FE} - I_C$

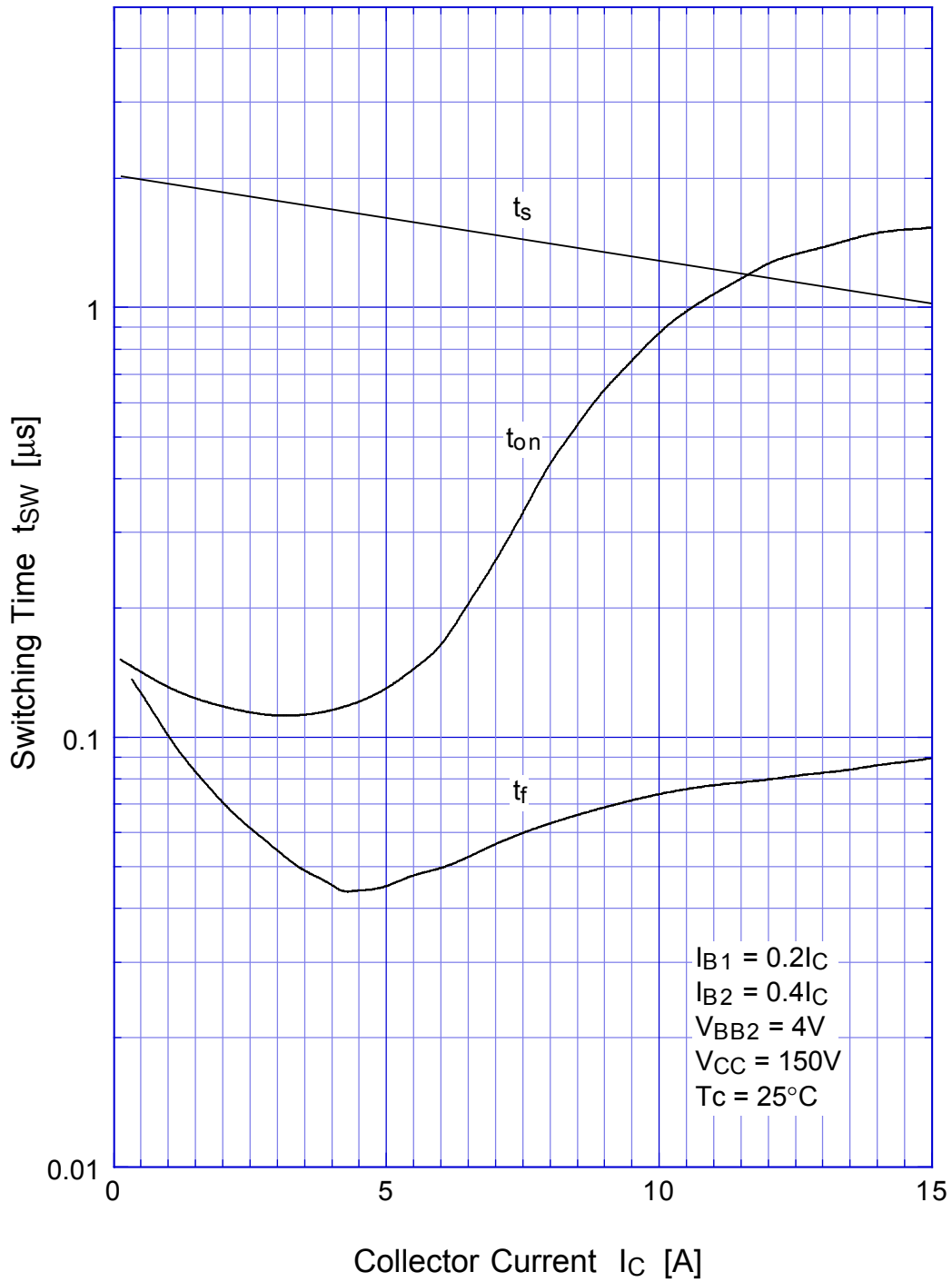


2SC4059 Saturation Voltage

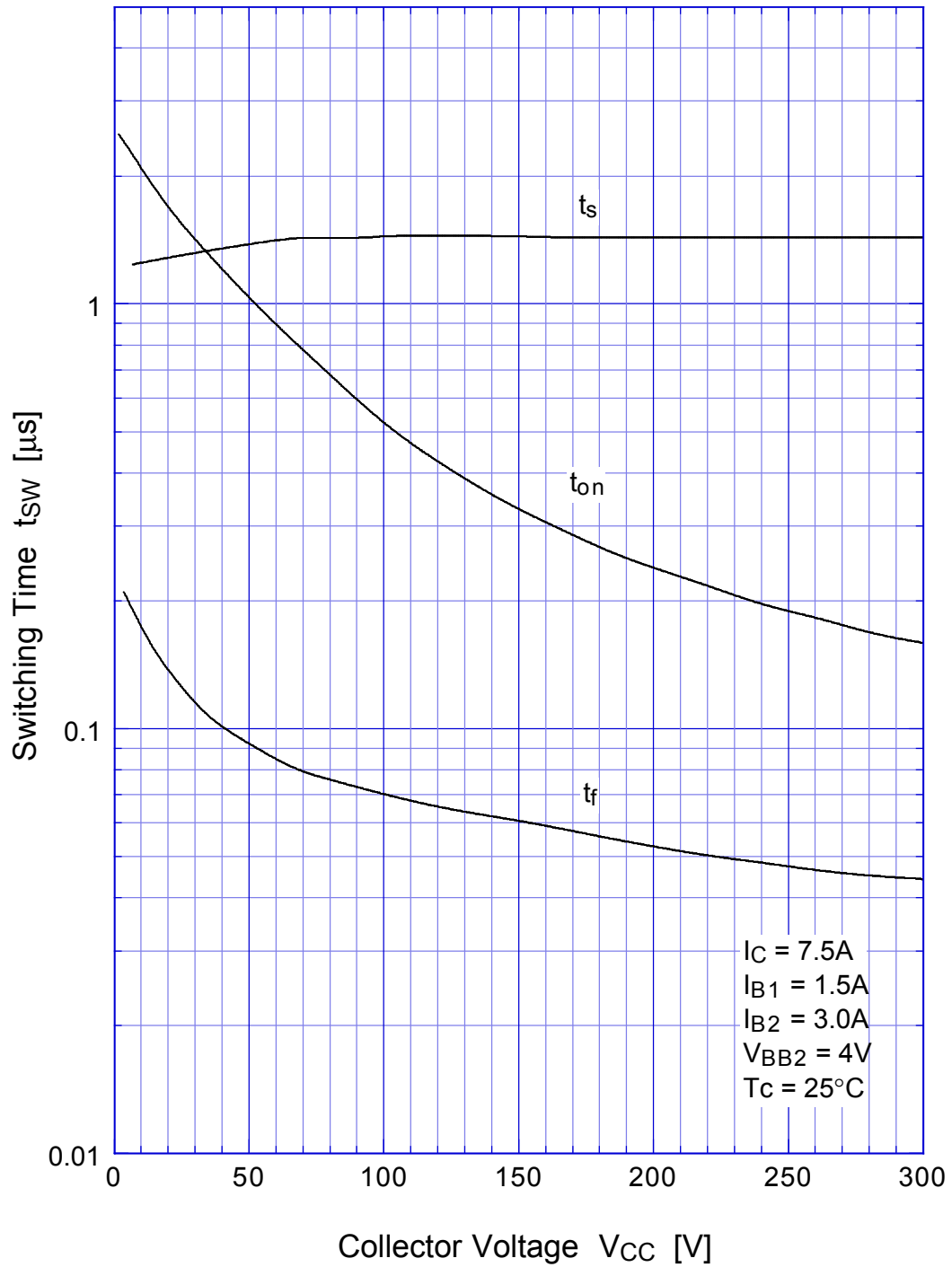


2SC4059

Switching Time - I_C

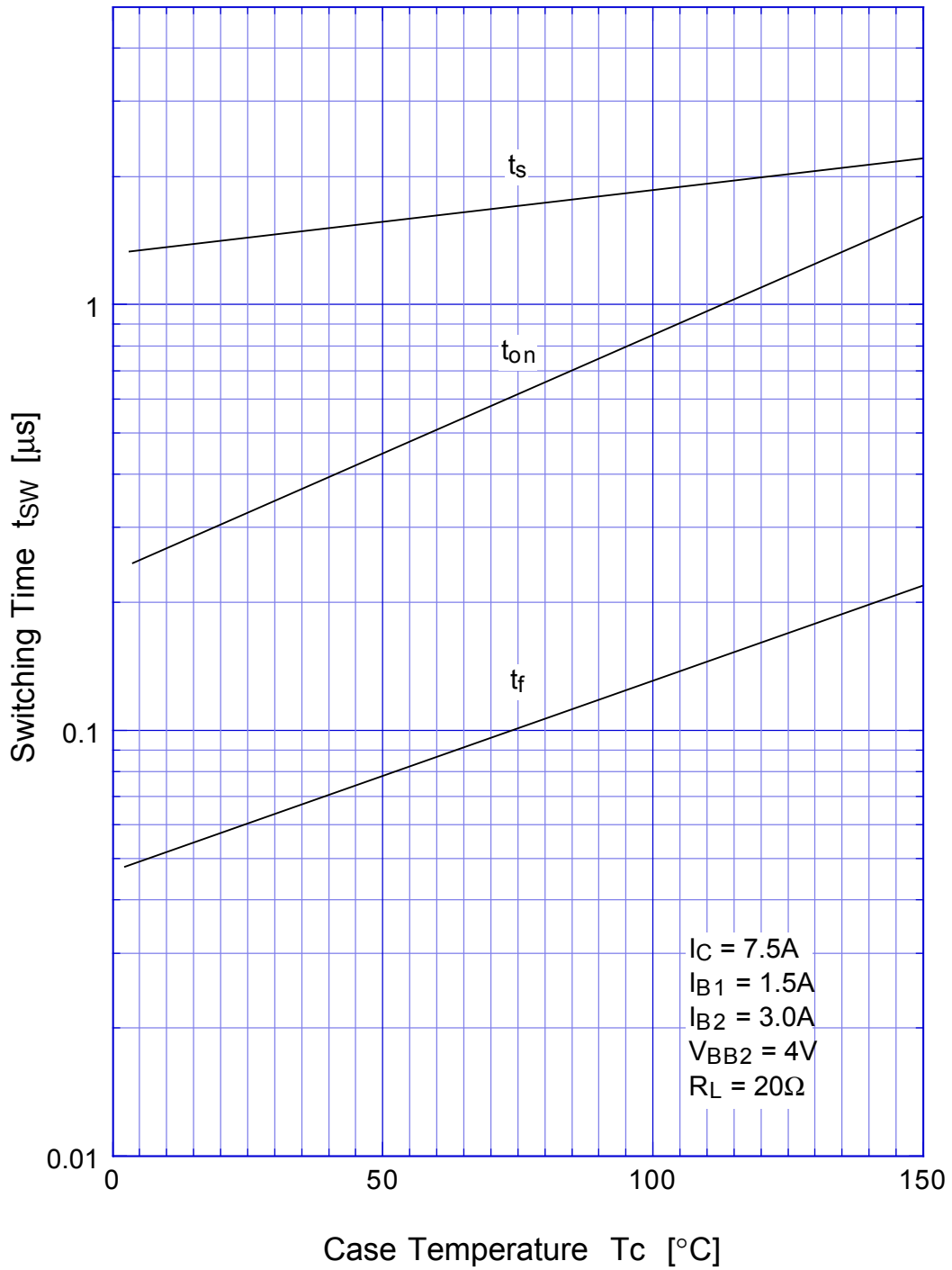


2SC4059 Switching Time - V_{CC}

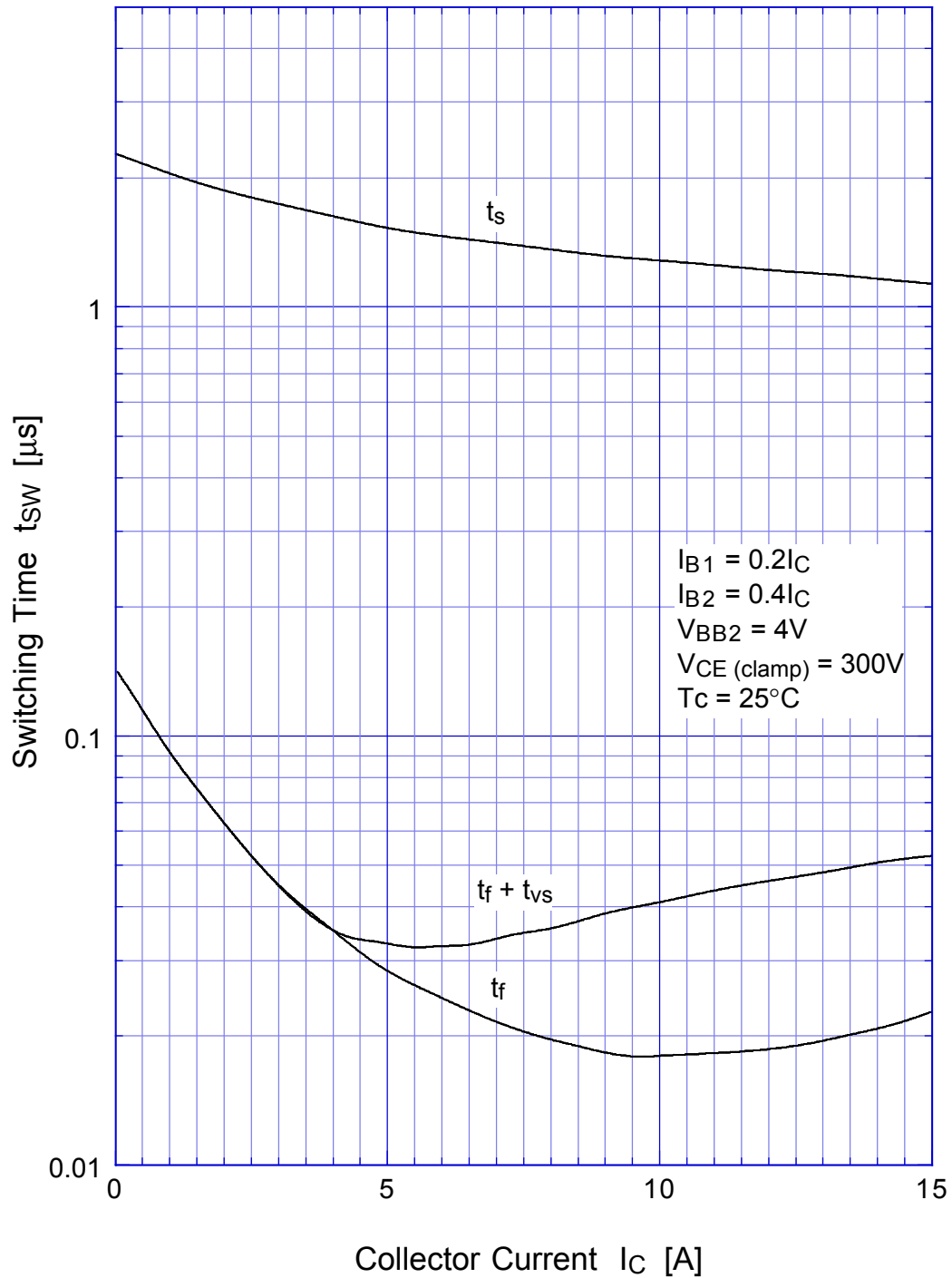


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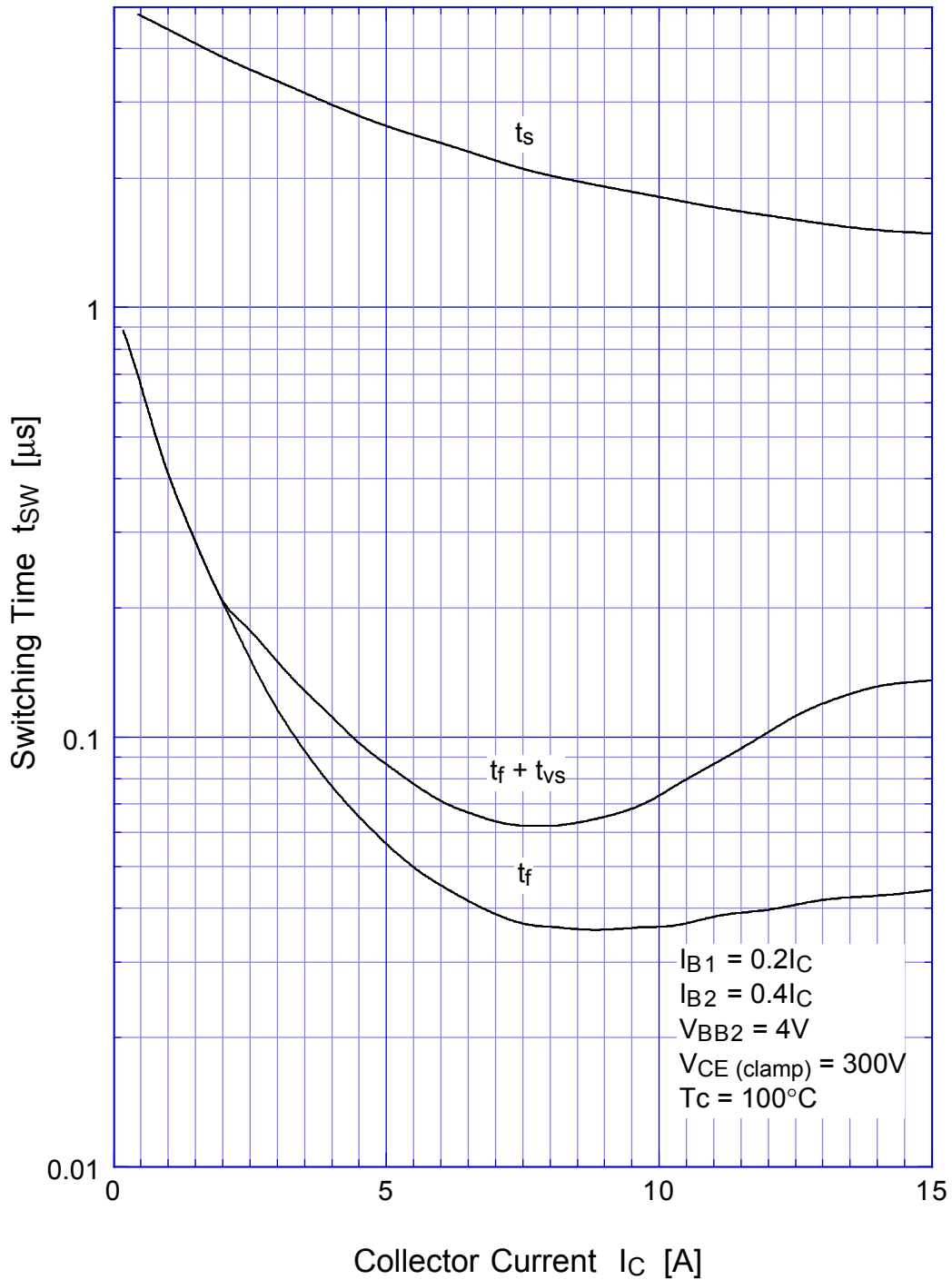
Switching Time - Tc



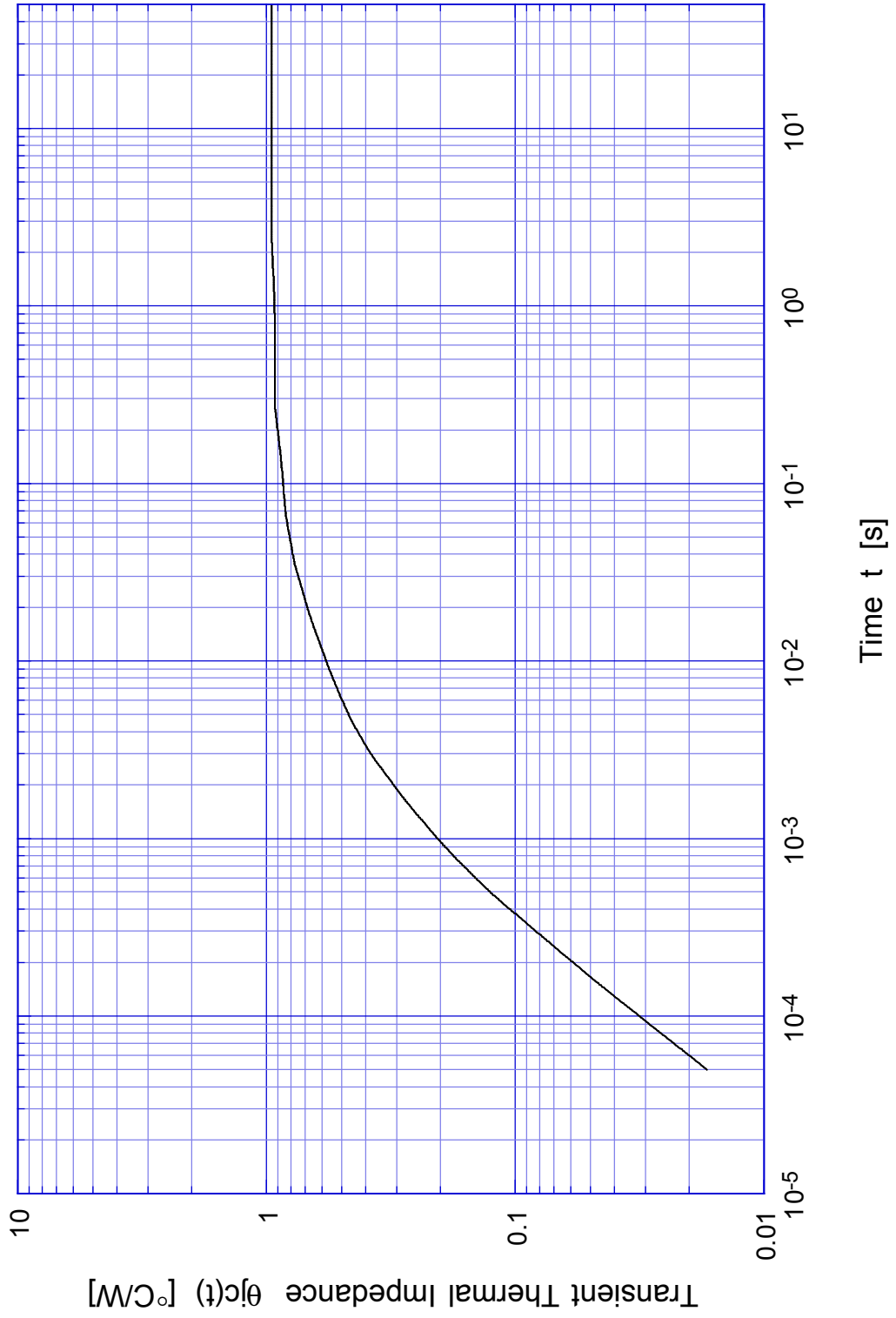
2SC4059 L-Load Switching Time - I_C



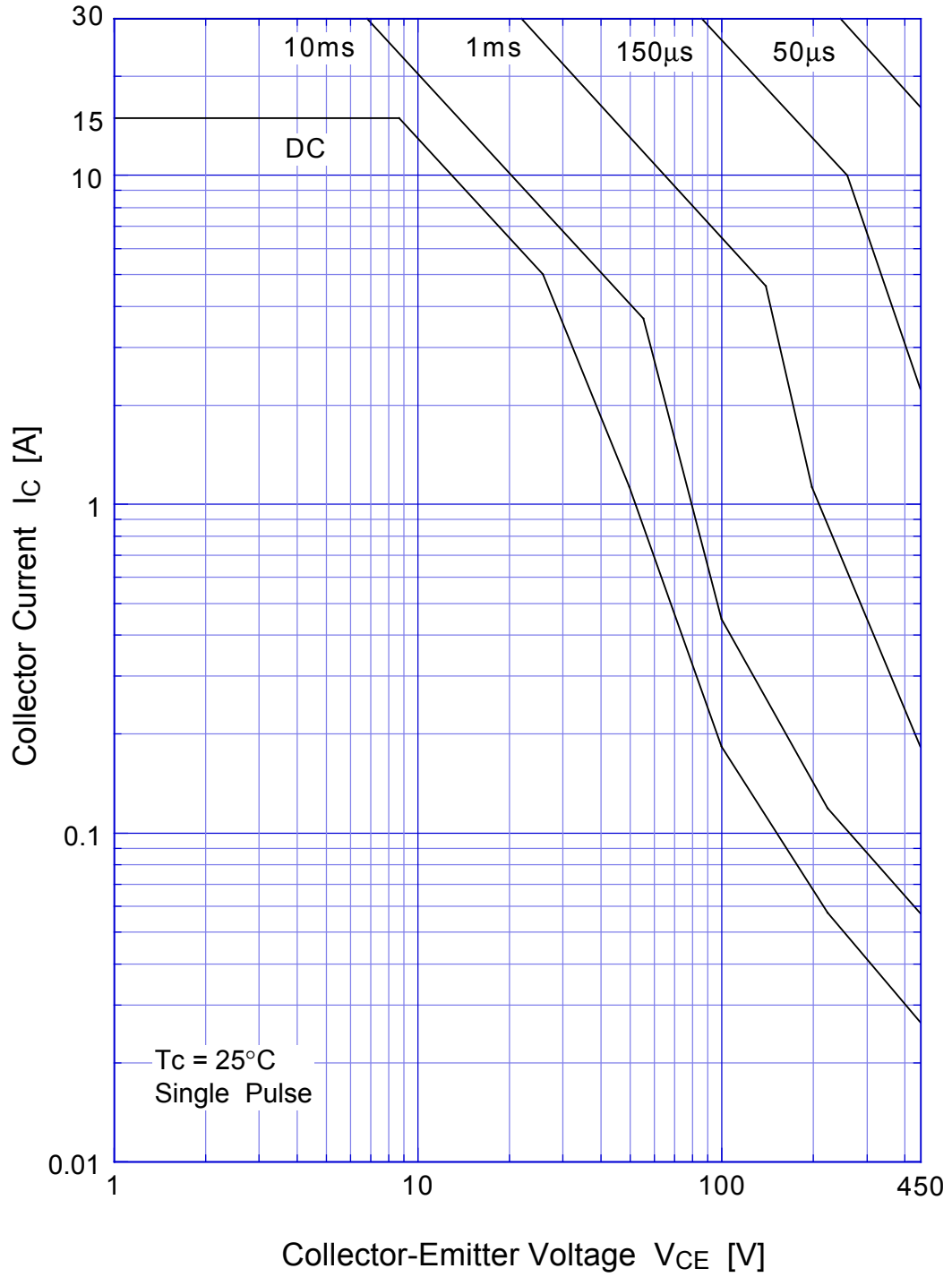
2SC4059 L-Load Switching Time - I_C (At High Temperature)



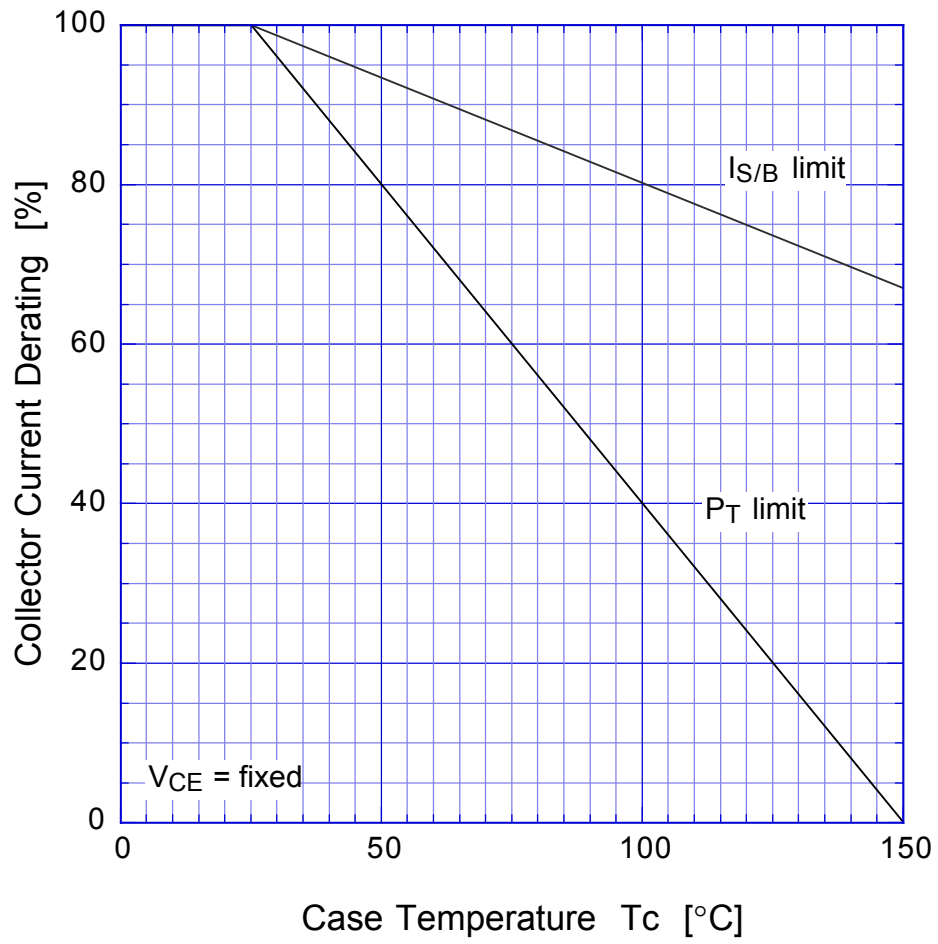
2SC4059 Transient Thermal Impedance



2SC4059 Forward Bias SOA



2SC4059 Collector Current Derating



2SC4059

Reverse Bias SOA

