

# SHINDENGEN

## Switching Power Transistor

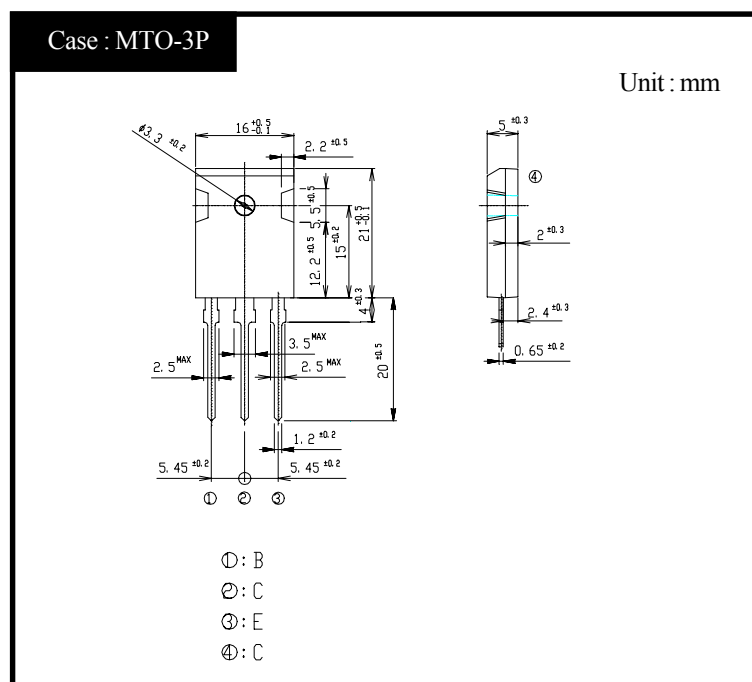
HFX Series

# 2SC4237

## (T10W80HFX)

### 10A NPN

## OUTLINE DIMENSIONS



## RATINGS

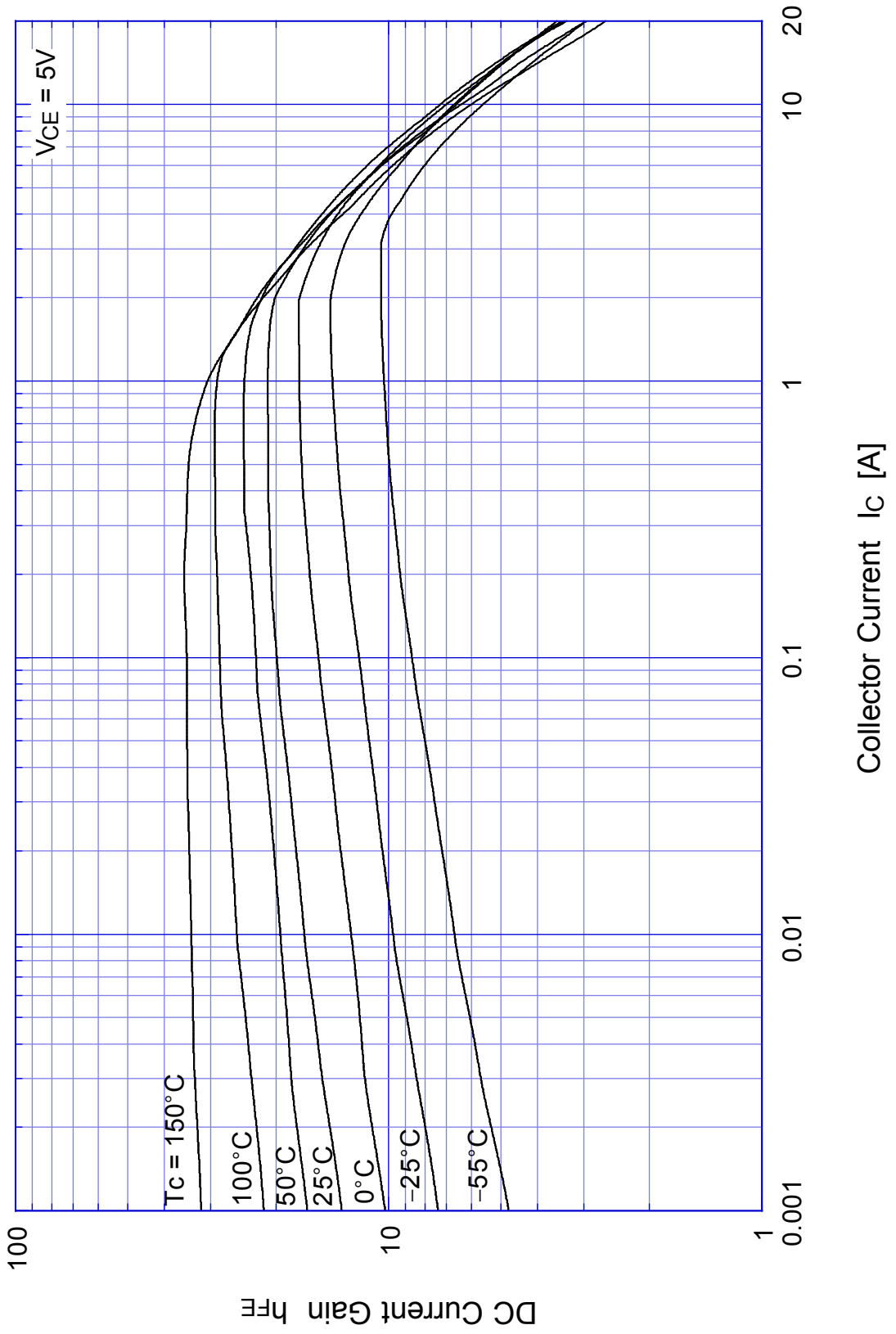
### ● Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage Temperature	$T_{stg}$		-55~150	°C
Junction Temperature	$T_j$		150	°C
Collector to Base Voltage	$V_{CBO}$		1200	V
Collector to Emitter Voltage	$V_{CEO}$		800	V
Emitter to Base Voltage	$V_{EBO}$		7	V
Collector Current DC	$I_C$		10	A
Collector Current Peak	$I_{CP}$		20	
Base Current DC	$I_B$		4	A
Base Current Peak	$I_{BP}$		8	
Total Transistor Dissipation	$P_T$	$T_c = 25^\circ\text{C}$	150	W
Mounting Torque	TOR	(Recommended torque : 0.5N·m)	0.8	N·m

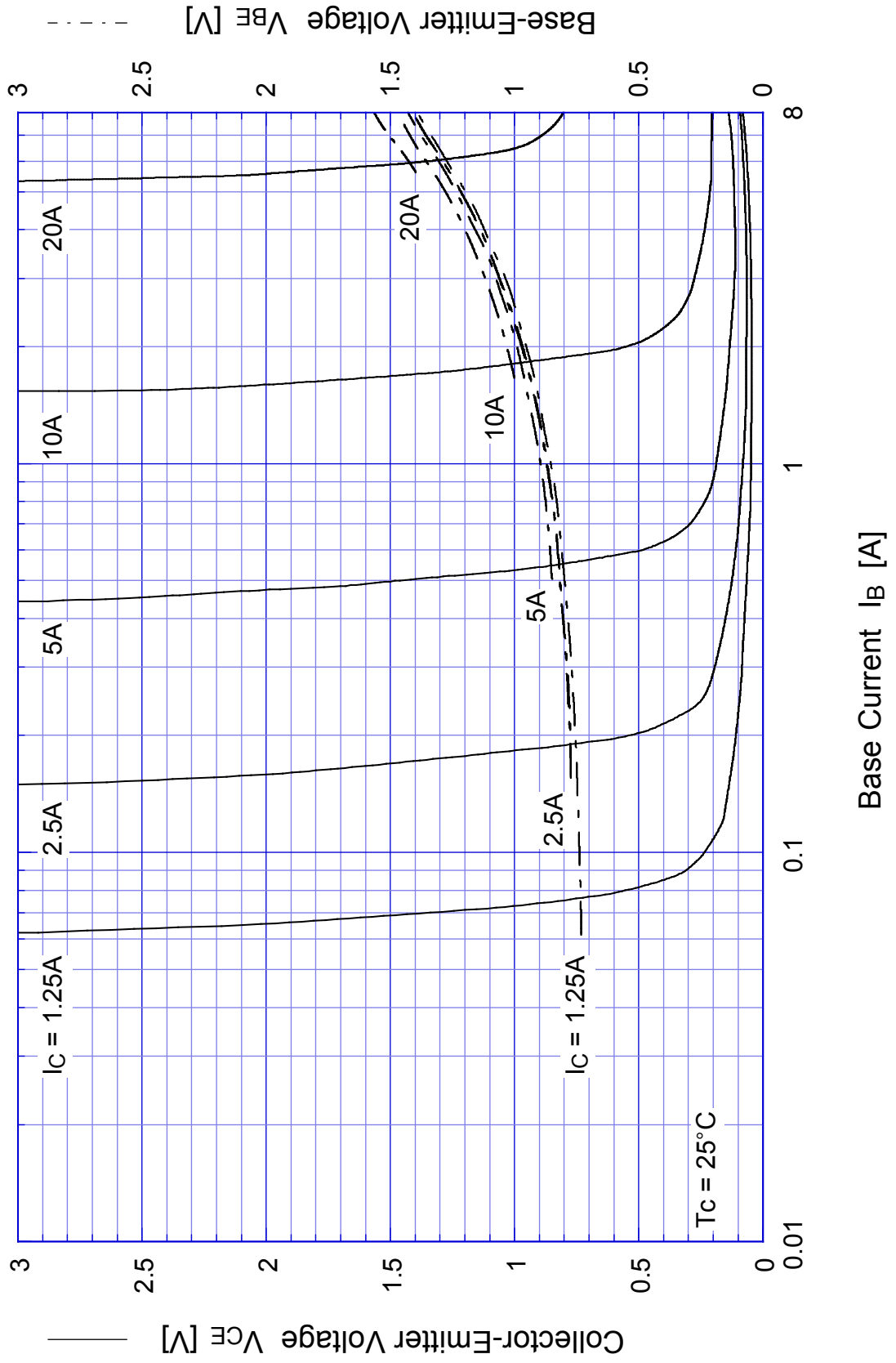
### ● Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Conditions	Ratings	Unit
Collector to Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 0.2A$	Min 800	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	$h_{FE}$	$V_{CE} = 5V, I_C = 5A$	Min 8	
	$h_{FEL}$	$V_{CE} = 5V, I_C = 1mA$	Min 5	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A$	Max 1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_B = 1A$	Max 1.5	V
Thermal Resistance	$\theta_{jc}$	Junction to case	Max 0.83	°C/W
Transition Frequency	$f_T$	$V_{CE} = 10V, I_C = 1A$	TYP 8	MHz
Turn on Time	$t_{on}$	$I_C = 5A$	Max 0.5	$\mu s$
Storage Time	$t_s$	$I_{B1} = 1A, I_{B2} = 2A$	Max 3.5	
Fall Time	$t_f$	$R_L = 50\Omega, V_{BB2} = 4V$	Max 0.3	

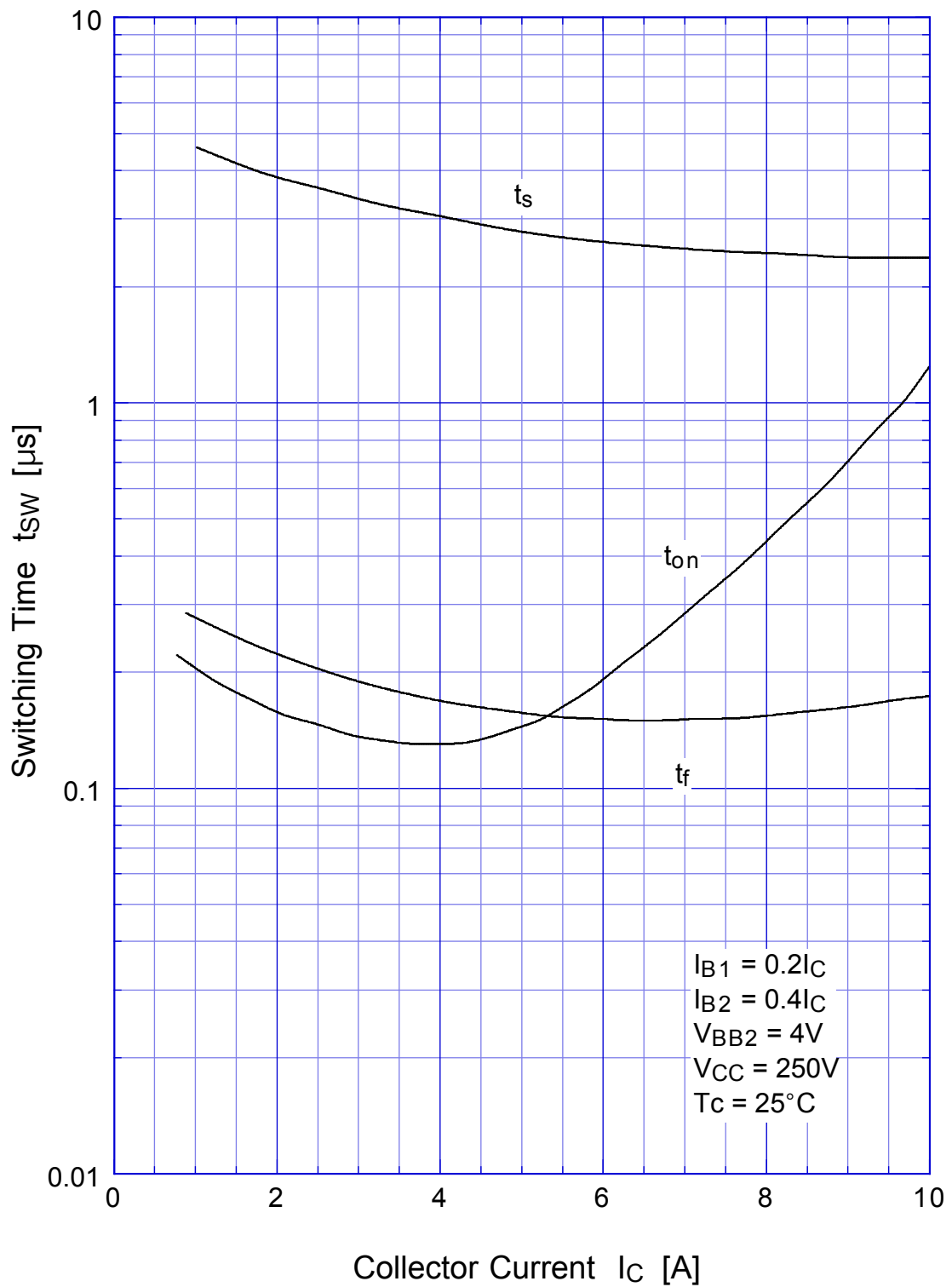
2SC4237  $h_{FE} - I_C$



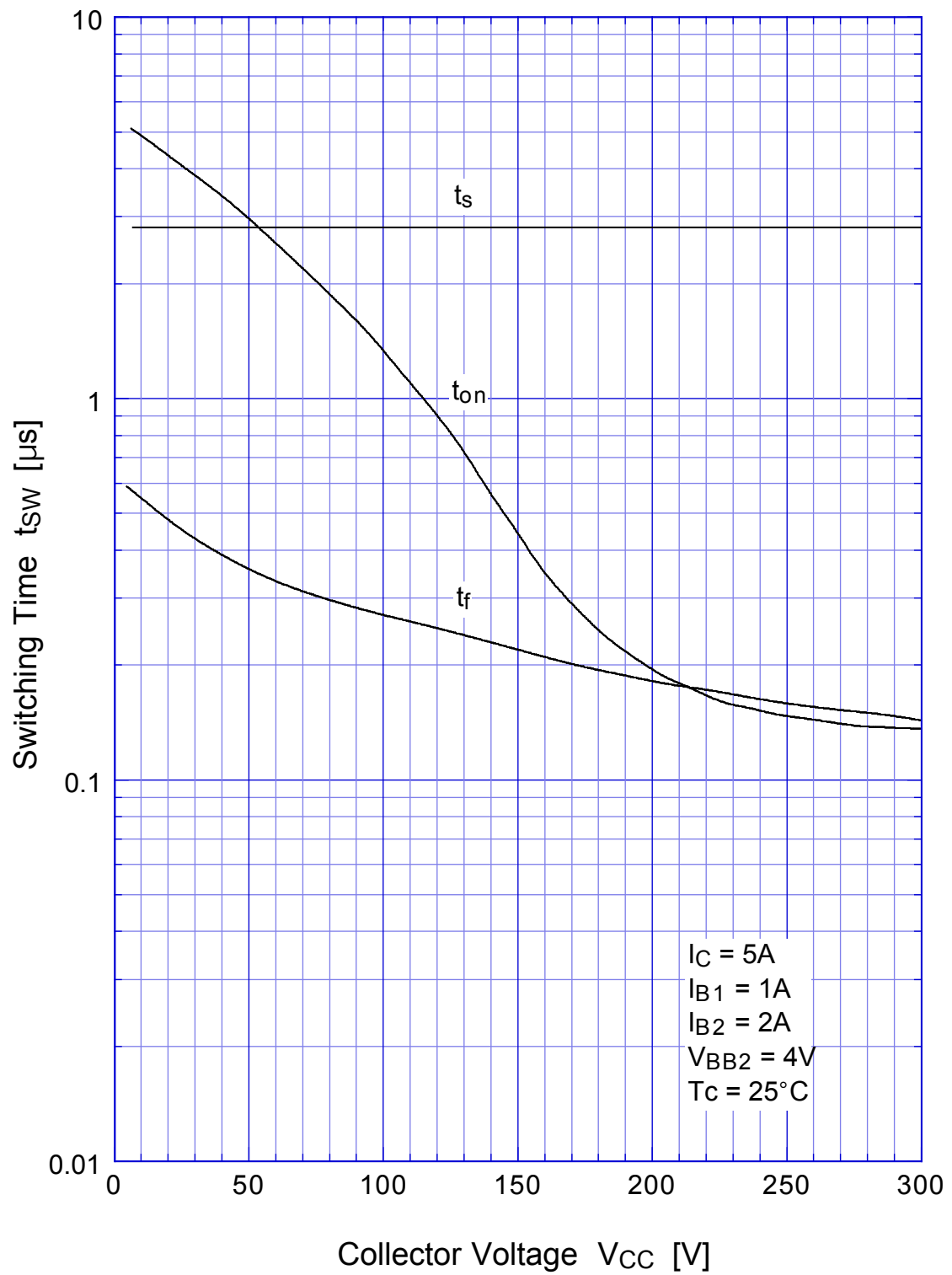
## 2SC4237 Saturation Voltage



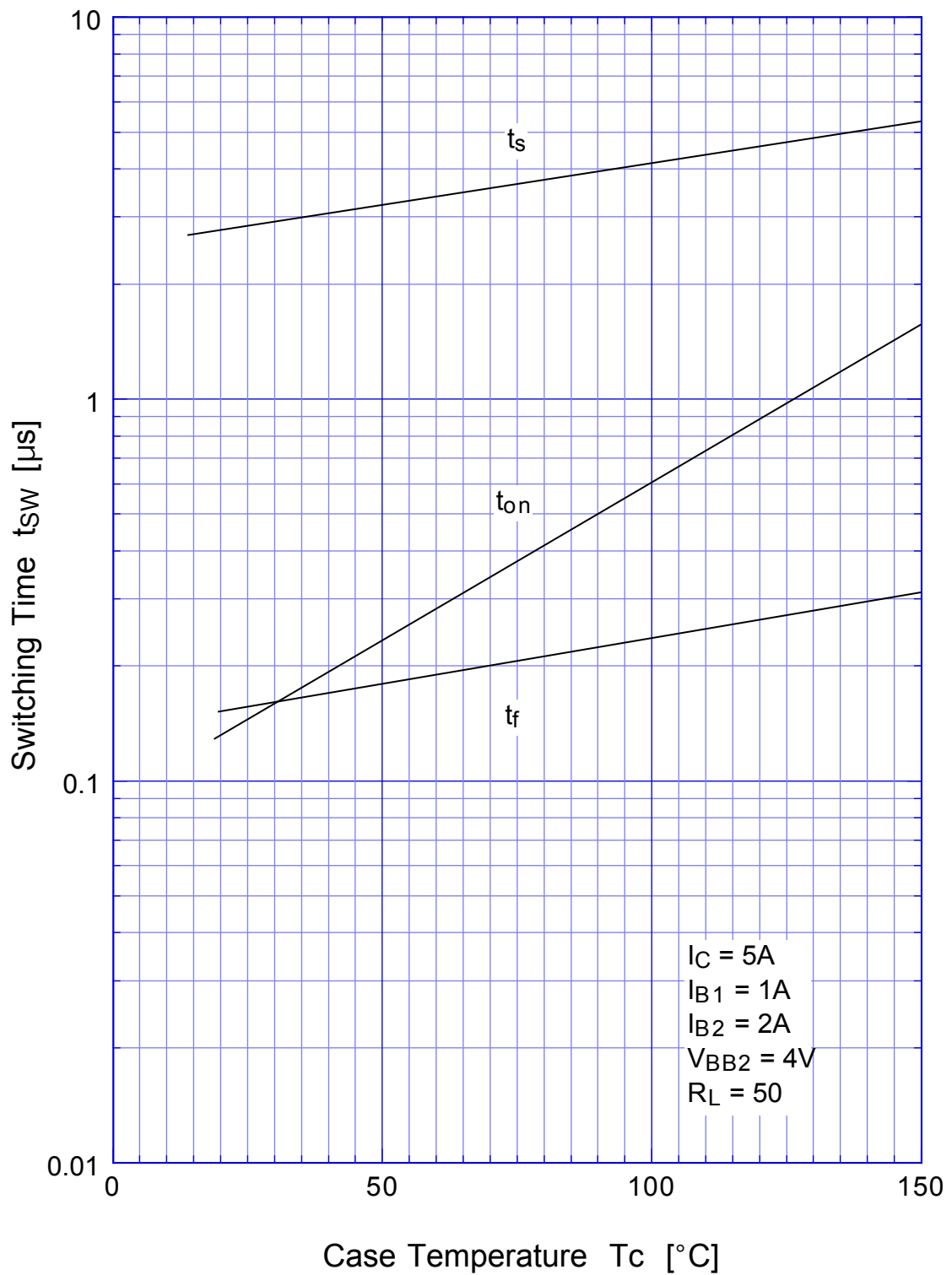
## 2SC4237 Switching Time - $I_C$



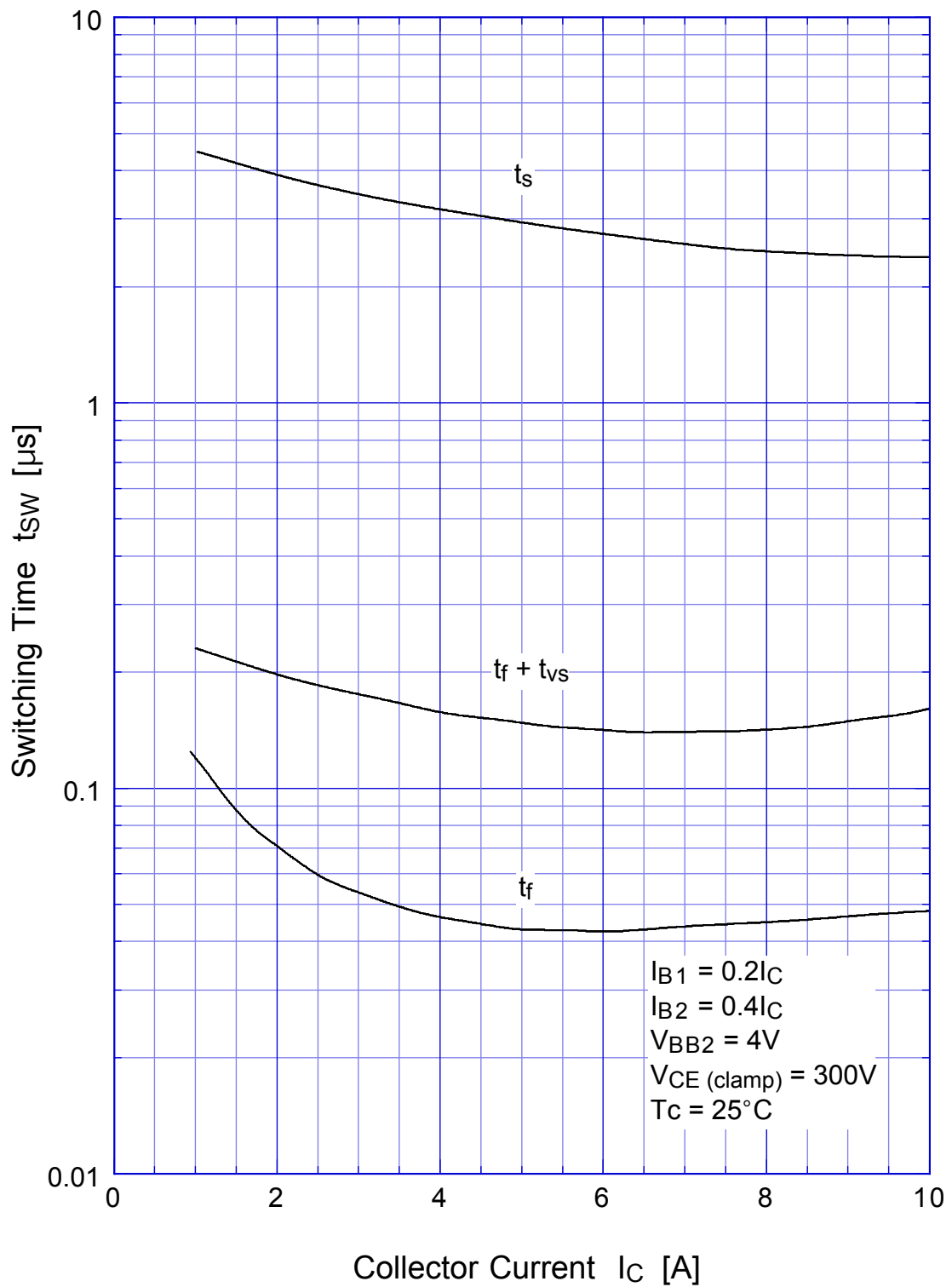
## 2SC4237 Switching Time - $V_{CC}$



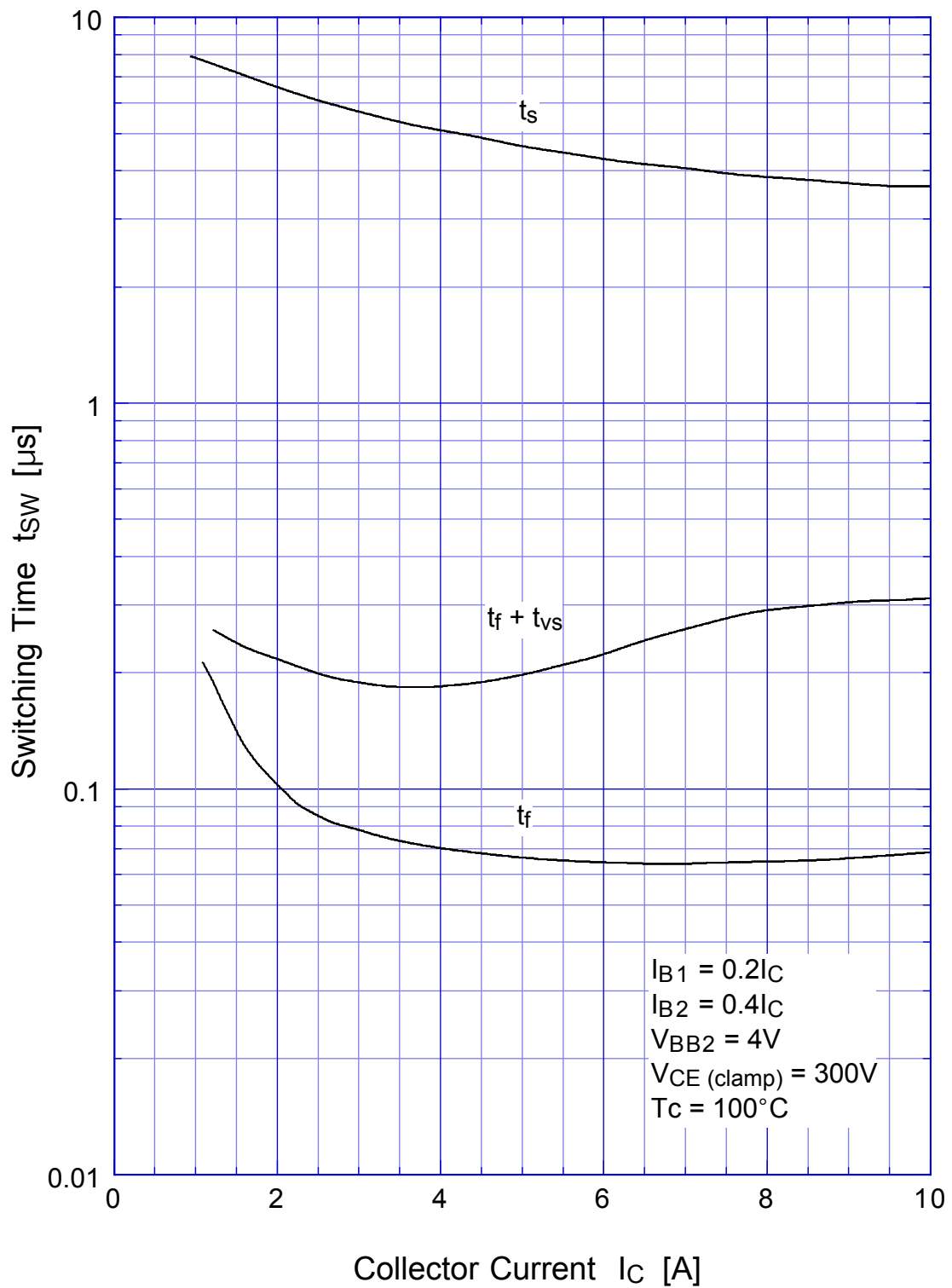
## 2SC4237 Switching Time - Tc



## 2SC4237 L-Load Switching Time - $I_C$

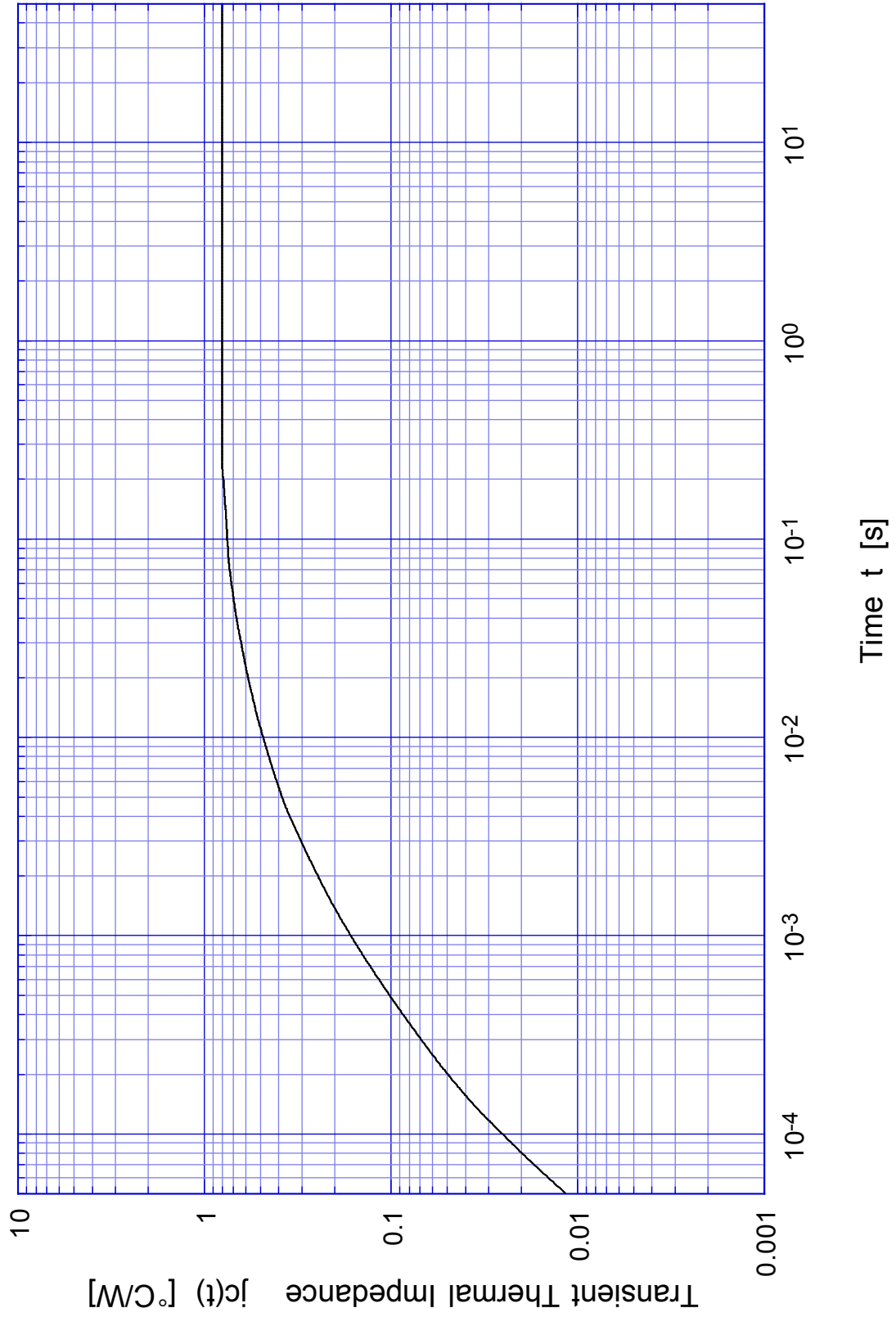


## 2SC4237 L-Load Switching Time - $I_C$ (At High Temperature)

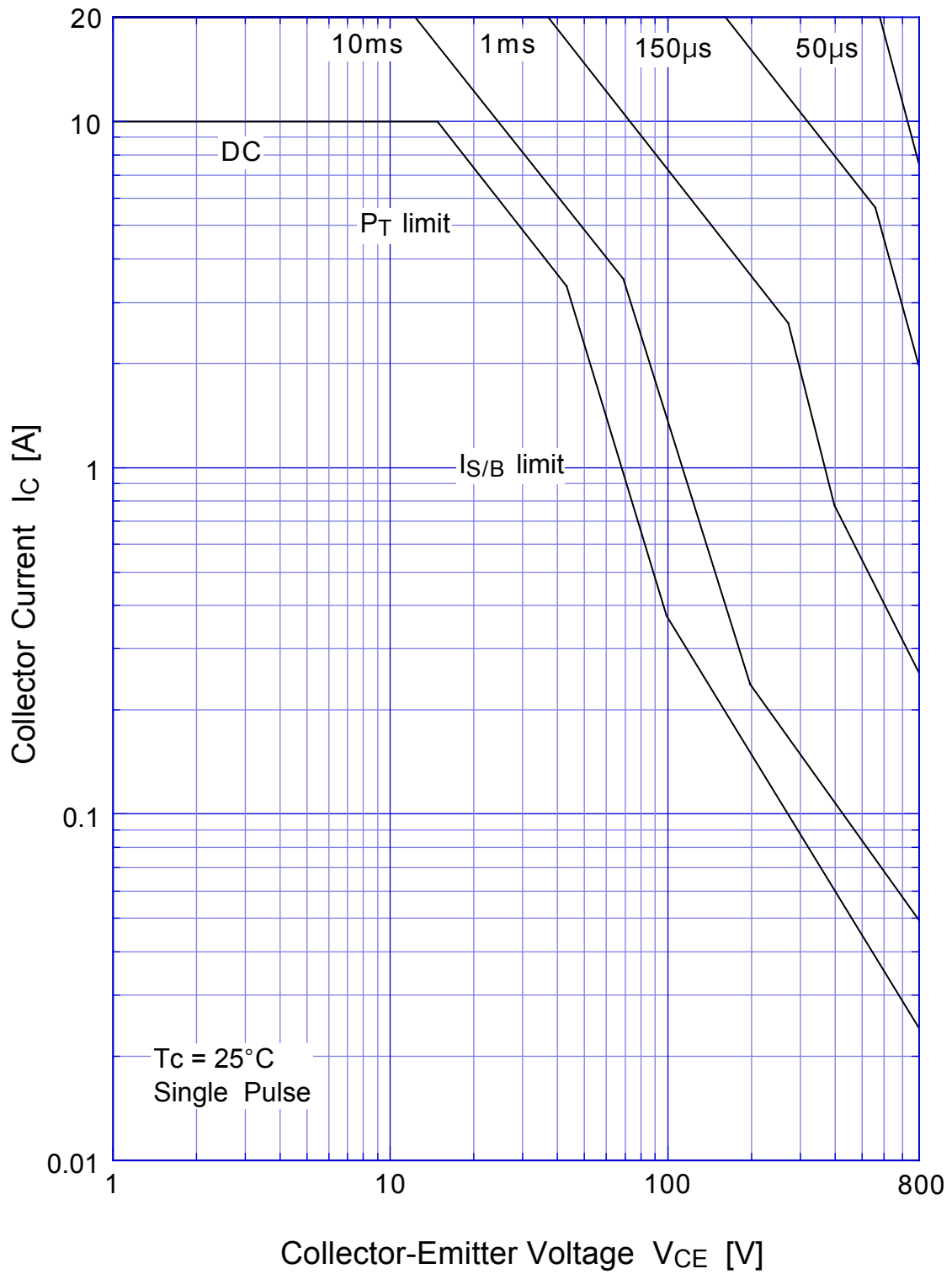




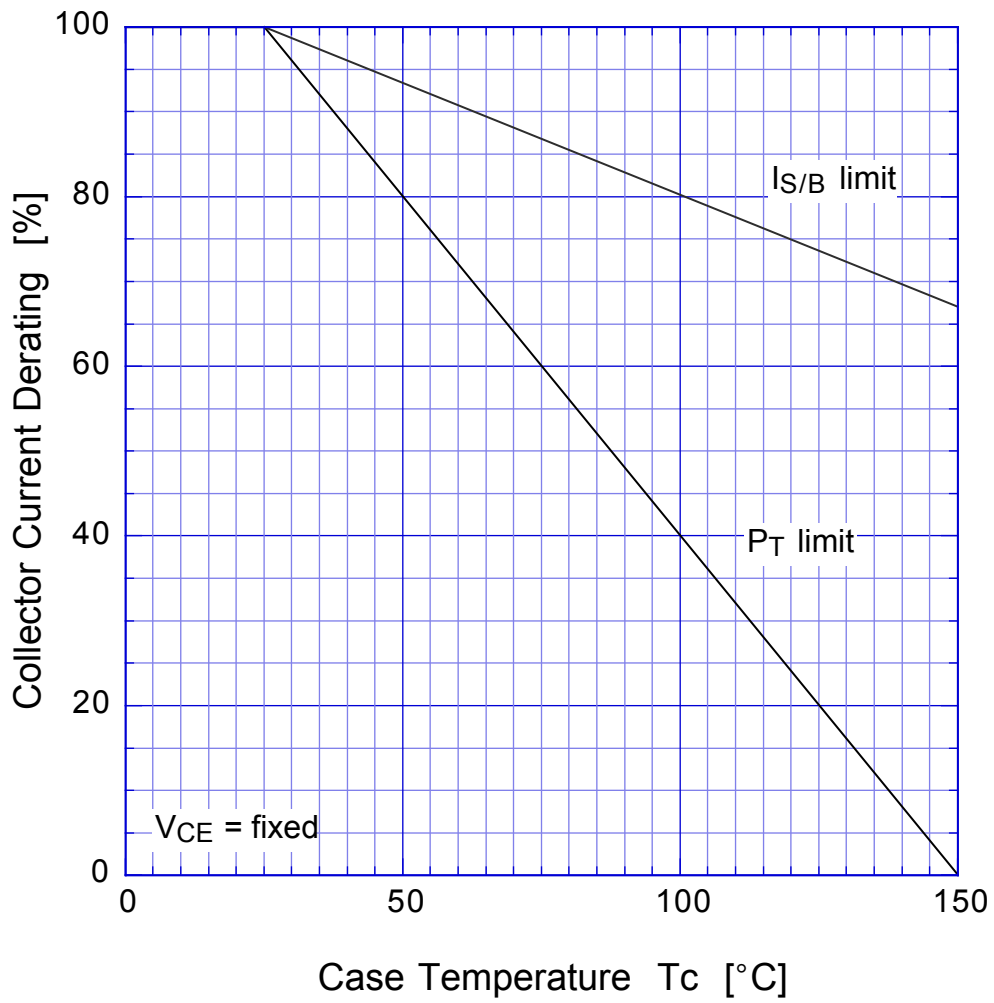
## 2SC4237 Transient Thermal Impedance



## 2SC4237 Forward Bias SOA



## 2SC4237 Collector Current Derating



## 2SC4237 Reverse Bias SOA

