

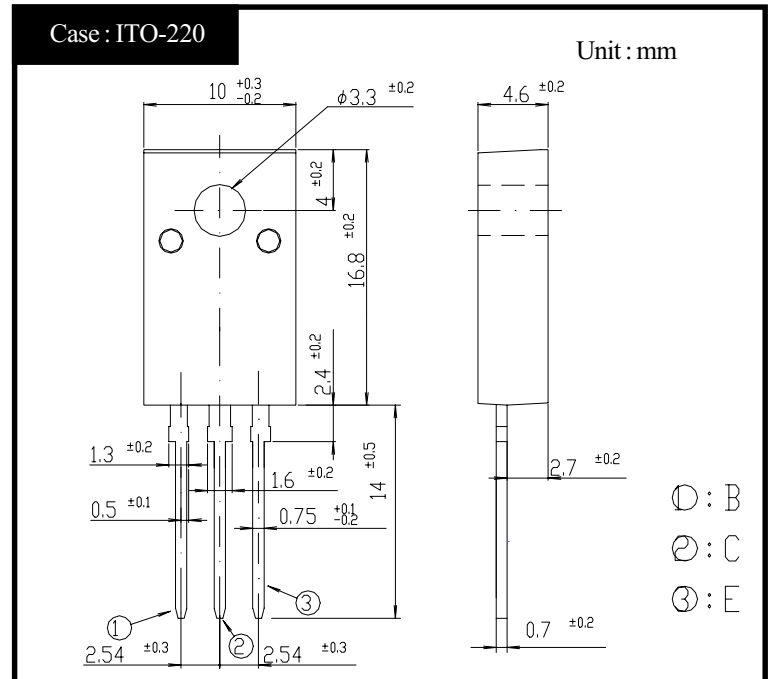
# SHINDENGEN

## Darlington Transistor

**2SB1283**  
(TP7J10)

**-7A PNP**

### OUTLINE DIMENSIONS



### RATINGS

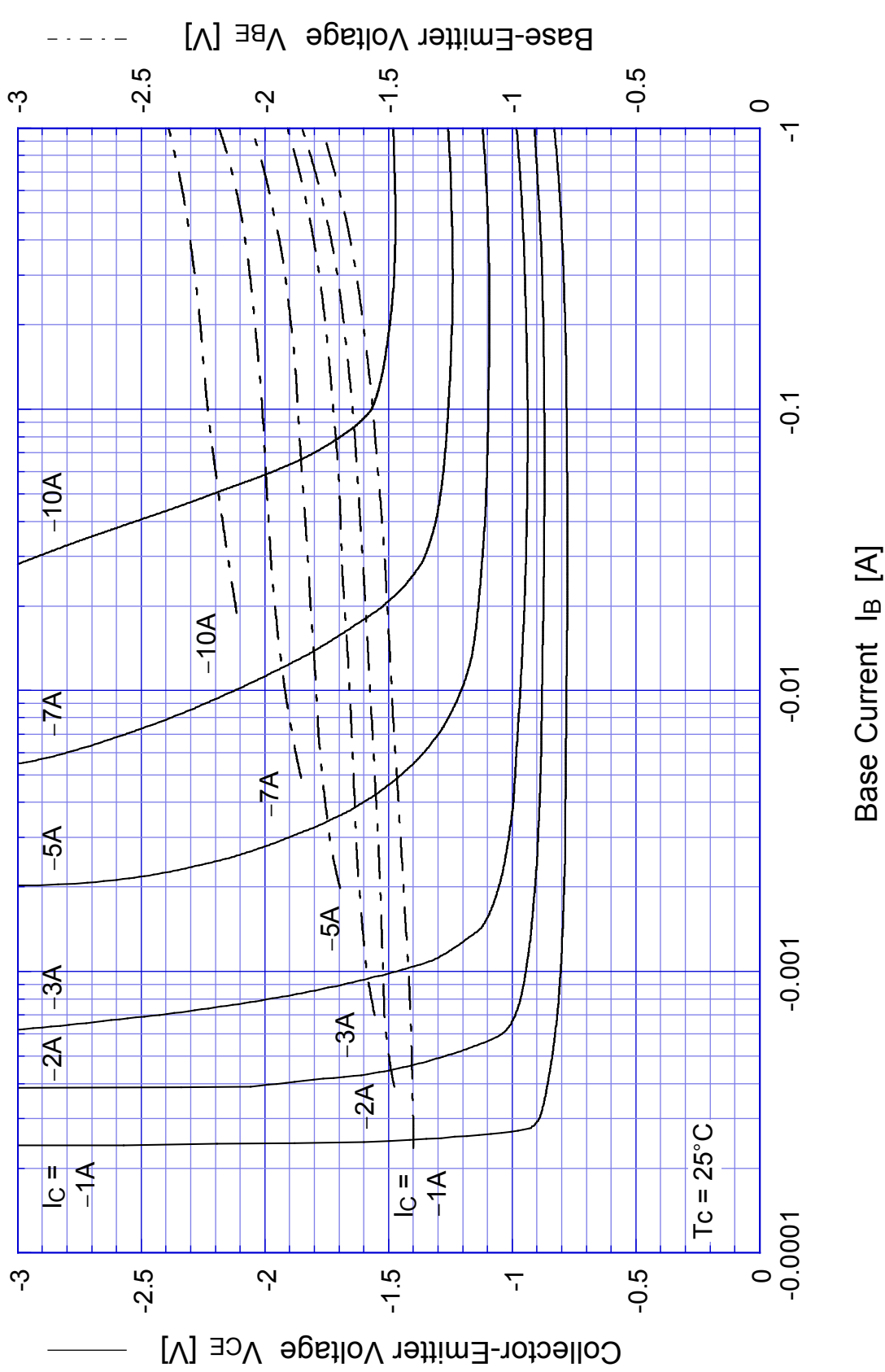
#### ● Absolute Maximum Ratings

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	$V_{CEO}$		-100	V
Emitter to Base Voltage	$V_{EBO}$		-7	V
Collector Current DC	$I_C$		-7	A
Collector Current Peak	$I_{CP}$		-10	A
Base Current DC	$I_B$		-0.5	A
Base Current Peak	$I_{BP}$		-1	A
Total Transistor Dissipation	$P_T$	$T_c = 25^\circ\text{C}$	30	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 ( $T_c=25^\circ\text{C}$ )

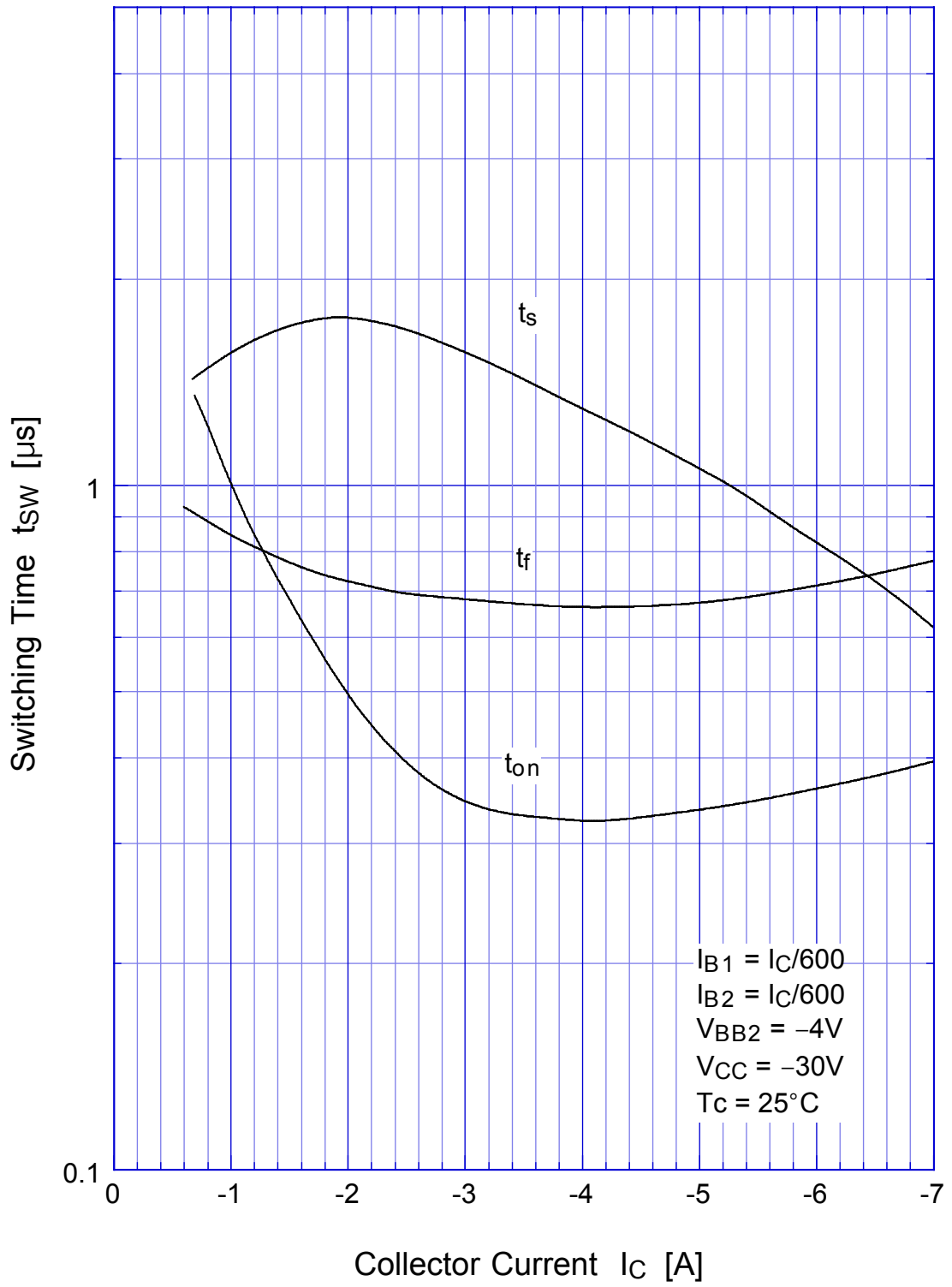
Item	Symbol	Conditions	Ratings	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -100\text{V}$	Max -0.1	mA
	$I_{CEO}$	$V_{CE} = -100\text{V}$	Max -0.1	
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -7\text{V}$	Max -5	mA
DC Current Gain	$h_{FE}$	$V_{CE} = -3\text{V}, I_C = -3\text{A}$	Min 1,500	
			Max 15,000	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -3\text{A}$	Max -1.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_B = -5\text{mA}$	Max -2.0	V
Thermal Resistance	$\theta_{jc}$	Junction to case	Max 4.16	°C/W
Transition Frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 0.7\text{A}$	TYP 20	MHz
Turn on Time	$t_{on}$	$I_C = -3\text{A}$ $I_{B1} = I_{B2} = -5\text{mA}$ $R_L = 10\Omega$	Max 1	$\mu\text{s}$
Storage Time	$t_s$		Max 4	
Fall Time	$t_f$		Max 2	

# 2SB1283 Saturation Voltage



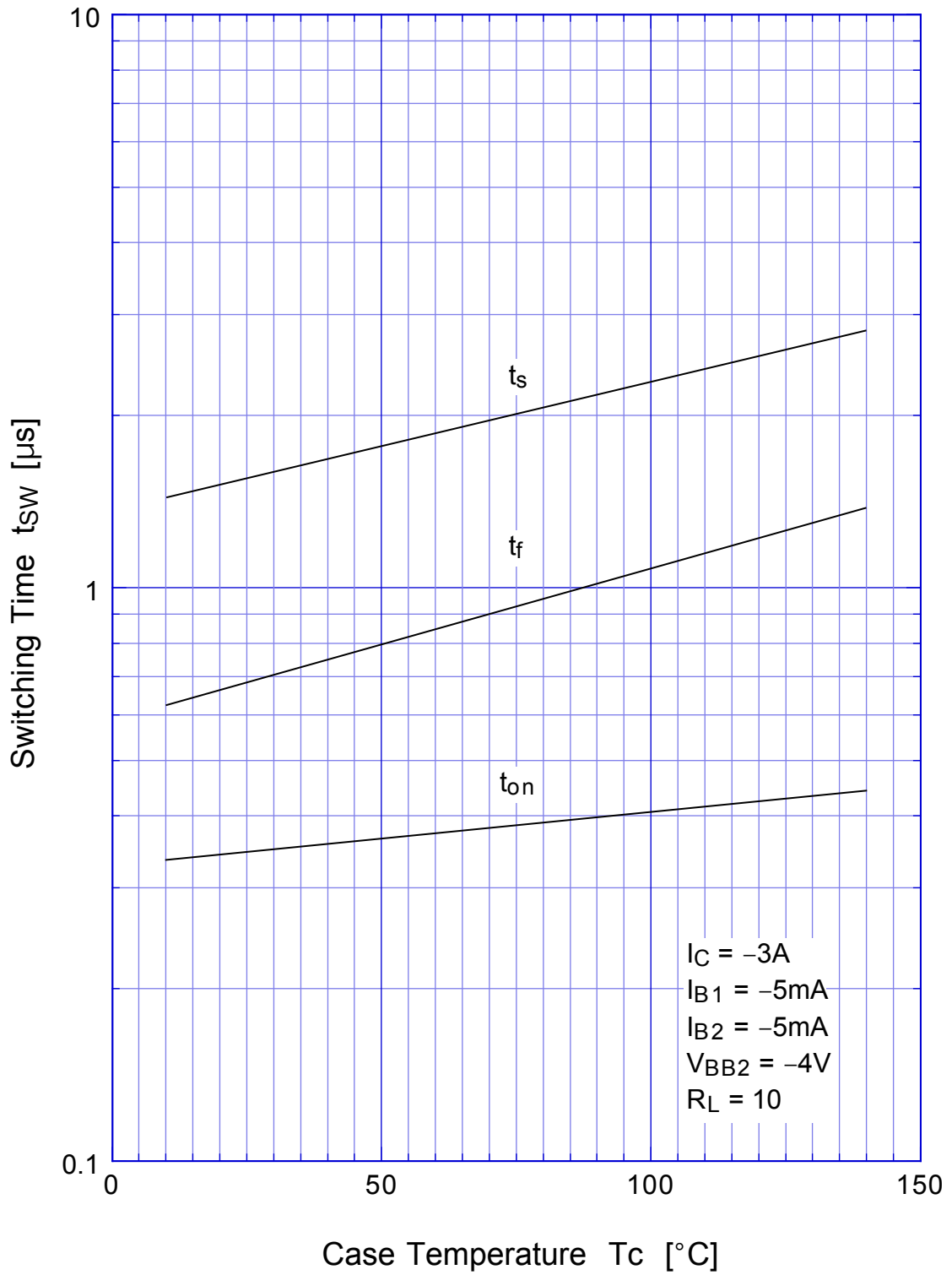
# 2SB1283

## Switching Time - $I_C$

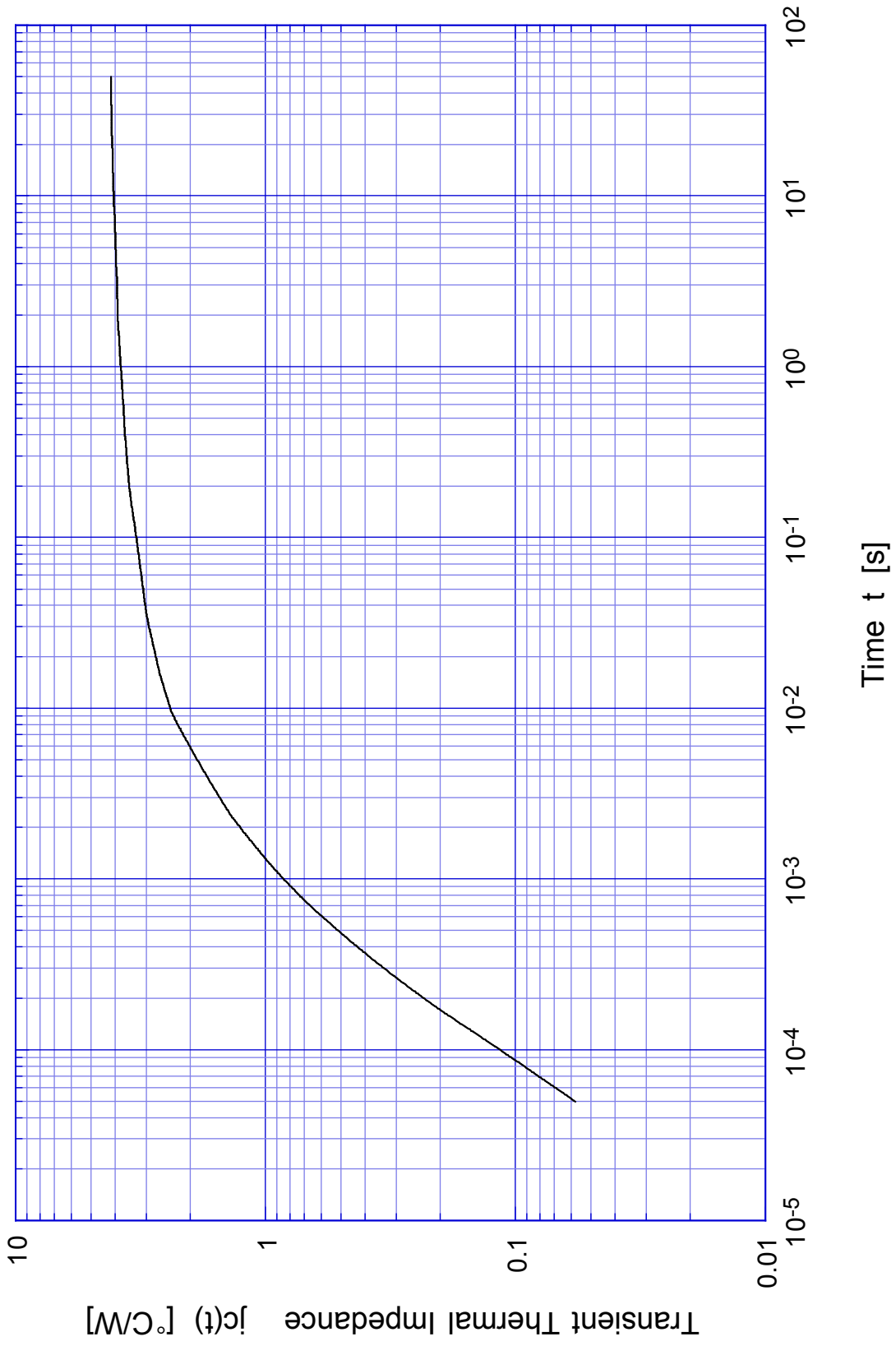


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## Switching Time - Tc

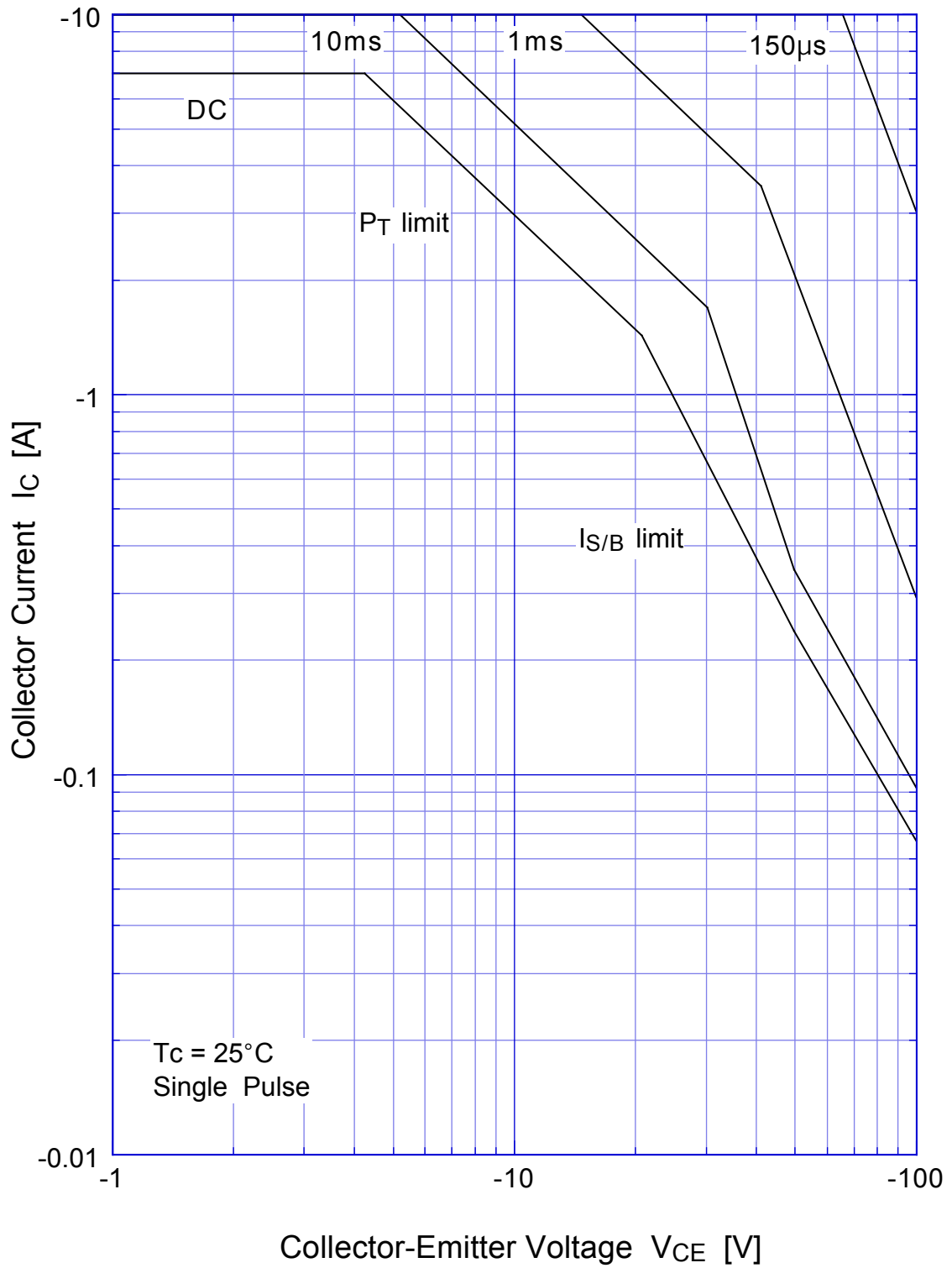


# 2SB1283 Transient Thermal Impedance

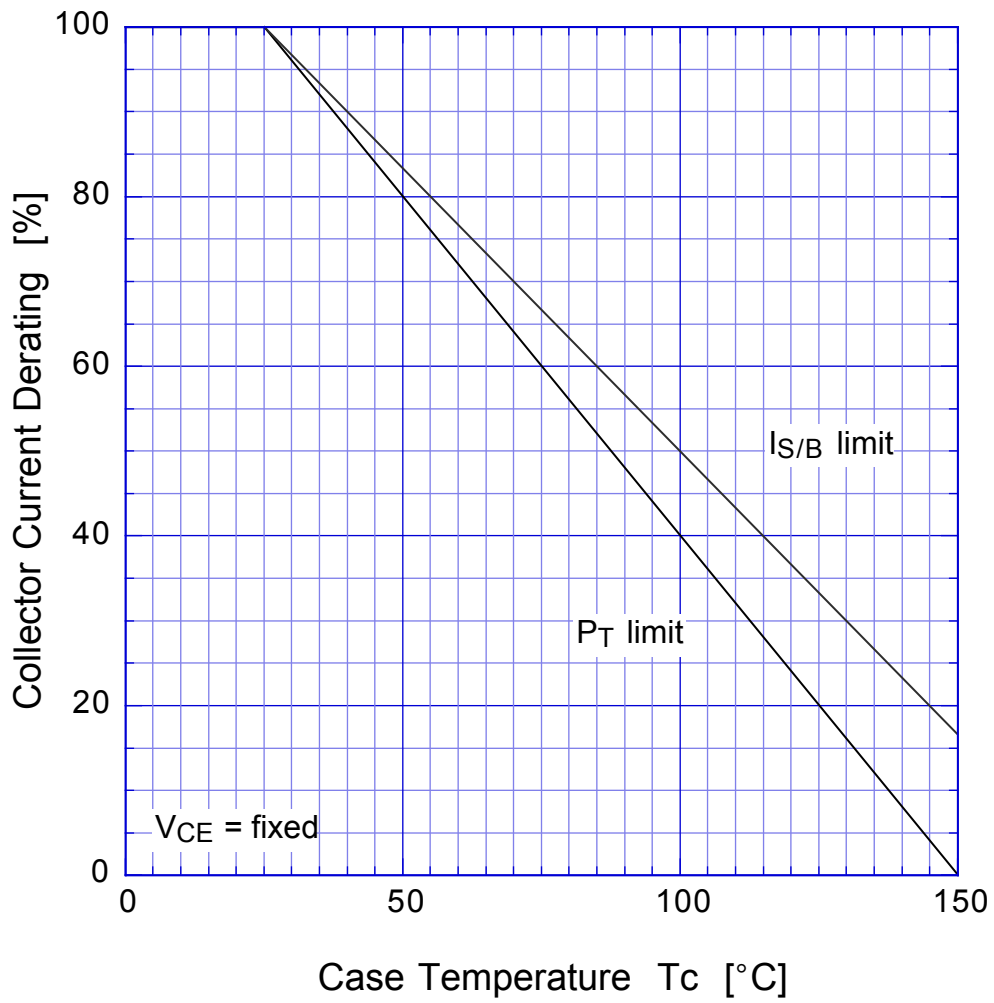


# 2SB1283

# Forward Bias SOA

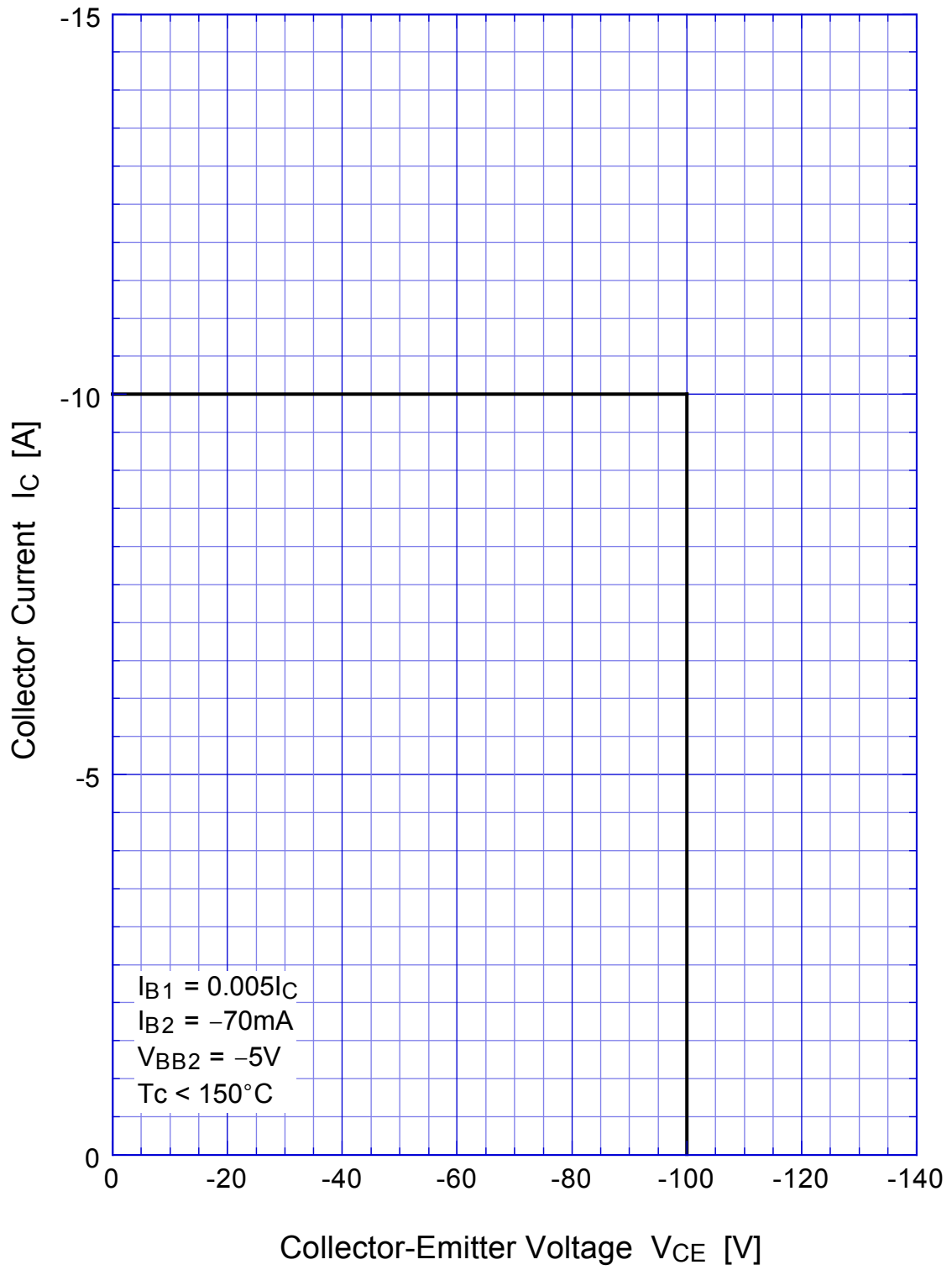


# 2SB1283 Collector Current Derating



2SB1283

Reverse Bias SOA





# 2SB1283

# Derating Curve

