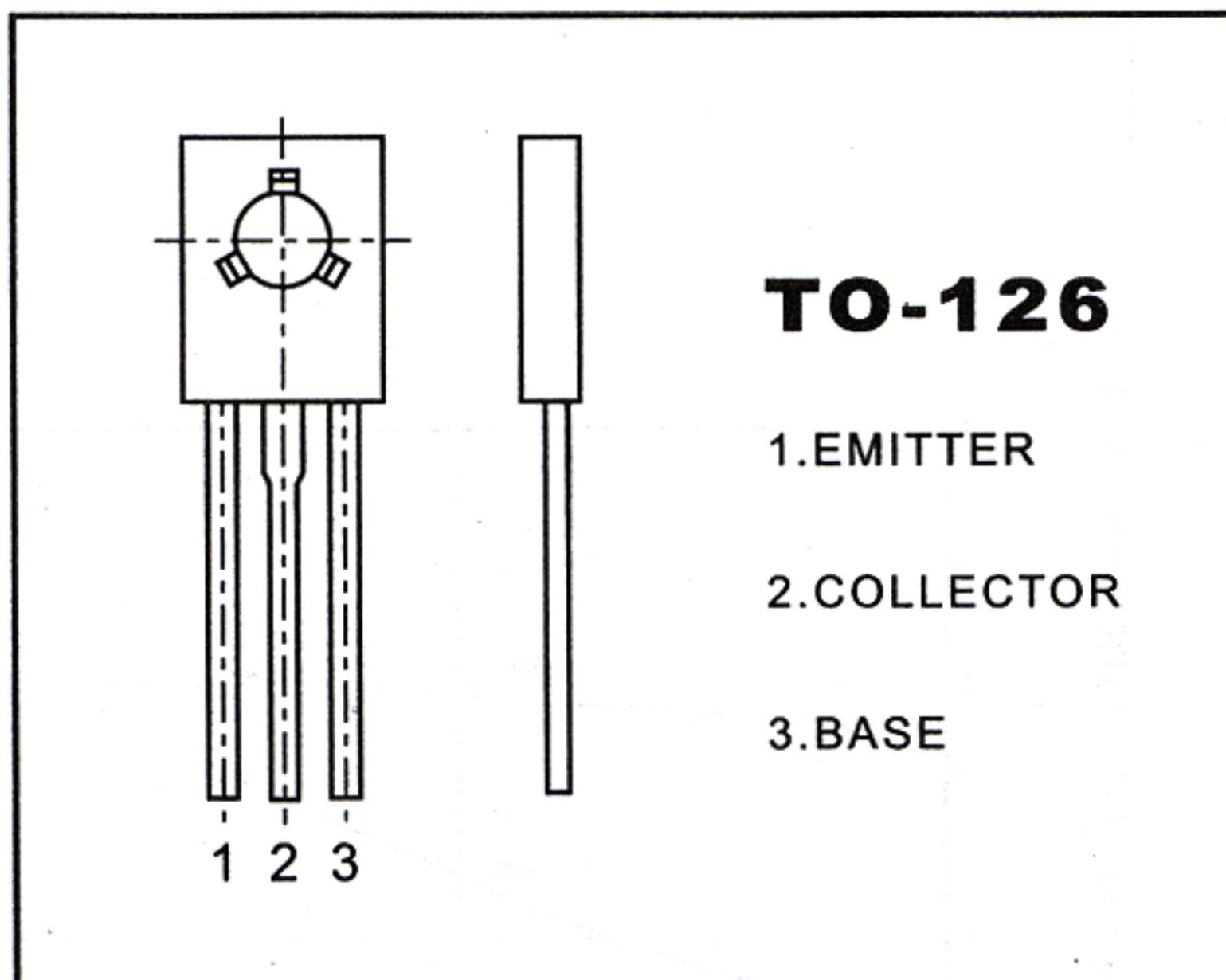


## BD233/235/237 TRANSISTOR(NPN)



### FEATURES

#### Power dissipation

$P_{CM}$ : 1.25 W ( $T_{amb}=25^{\circ}C$ )

#### Collector current

$I_{CM}$ : 2 A

#### Collector-base voltage

$V_{(BR)CBO}$ : BD233 : 45V

BD235 : 60V

BD237: 100V

#### Operating and storage junction temperature range

$T_{stg}$ :  $-65^{\circ}C$  to  $+150^{\circ}C$

$T_J$ :  $150^{\circ}C$

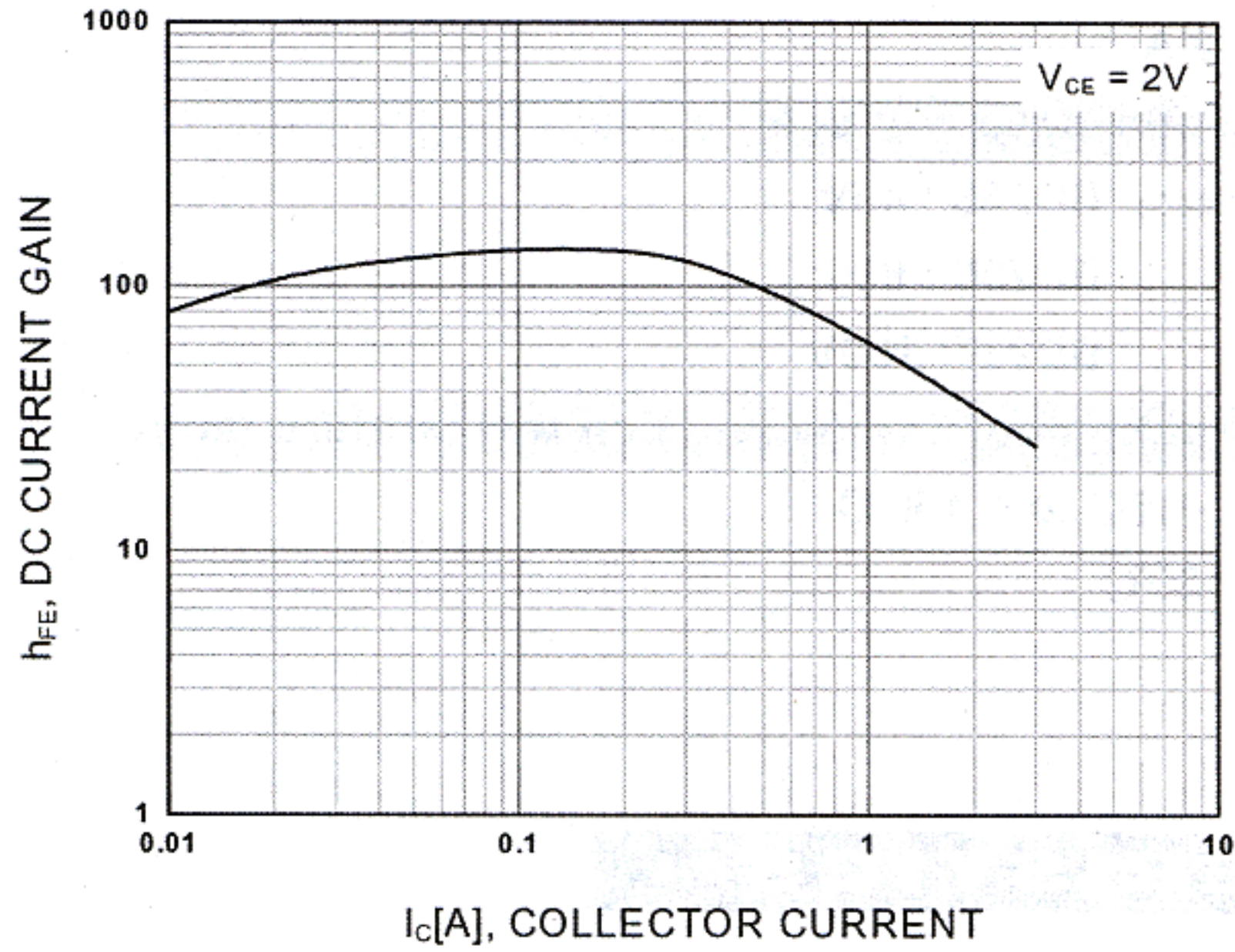
### ELECTRICAL CHARACTERISTICS

( $T_{amb}=25^{\circ}C$  unless otherwise specified)

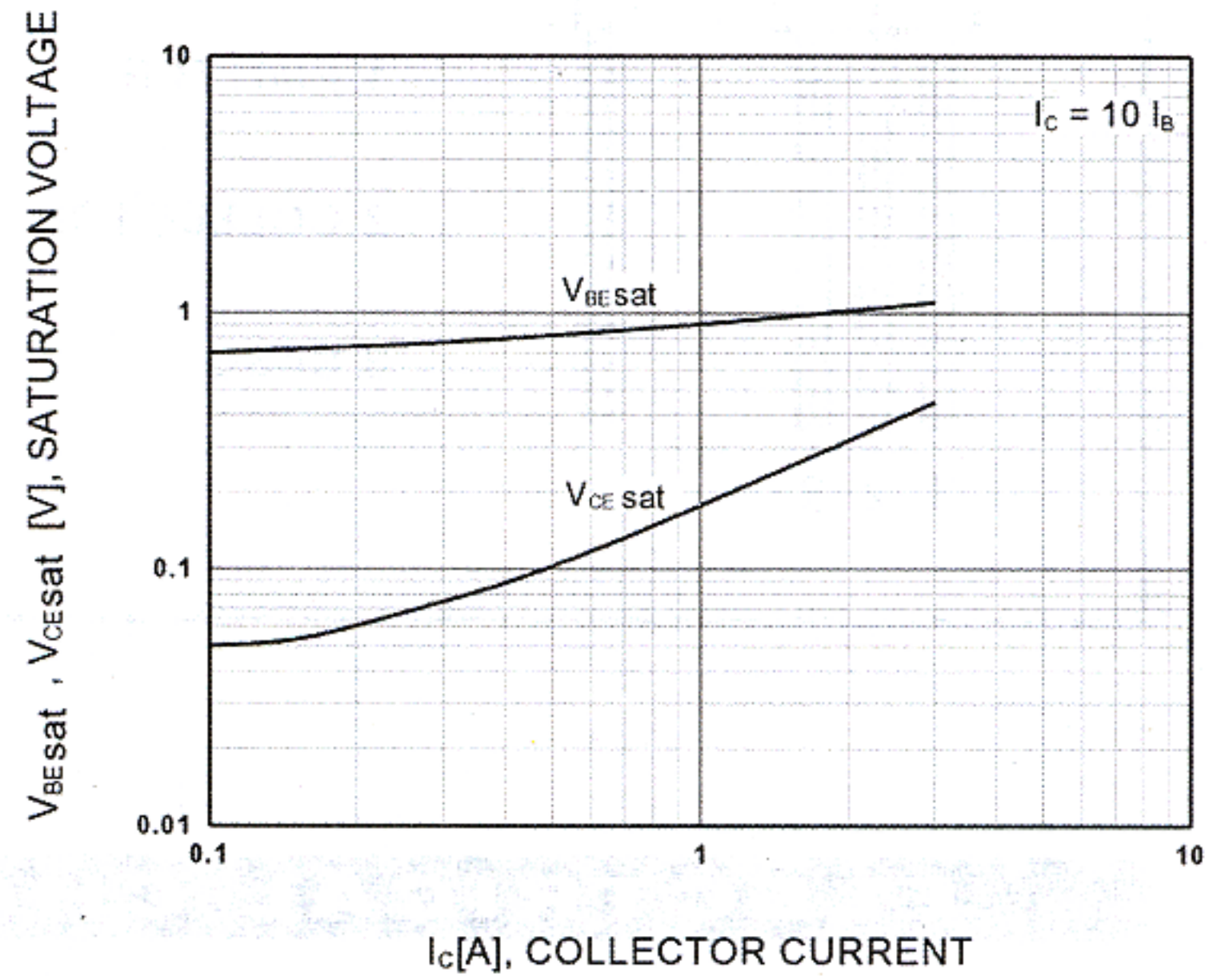
Parameter		Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	BD233	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	45		V
	BD235			60		
	BD237			100		
Collector-emitter breakdown voltage	BD233	$V_{(BR)CEO}$	$I_C = 10 mA, I_B = 0$	45		V
	BD235			60		
	BD237			80		
Emitter-base breakdown voltage		$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	5		V
Collector cut-off current	BD233	$I_{CBO}$	$V_{CB} = 45 V, I_E = 0$		100	$\mu A$
	BD235		$V_{CB} = 60 V, I_E = 0$			
	BD237		$V_{CB} = 100 V, I_E = 0$			
Emitter cut-off current		$I_{EBO}$	$V_{EB} = 5 V, I_C = 0$		1	mA
DC current gain		$h_{FE(1)}$	$V_{CB} = 2 V, I_C = 150 mA$	40		
		$h_{FE(2)}$	$V_{CB} = 2 V, I_C = 1 A$	25		
Collector-emitter saturation voltage		$V_{CEsat}$	$I_C = 1 A, I_B = 100 mA$		0.6	V
Transition frequency		$f_T$	$V_{CE} = 10V, I_C = 250mA$ $f = 10MHz$	3		MHz

# Typical Characteristics

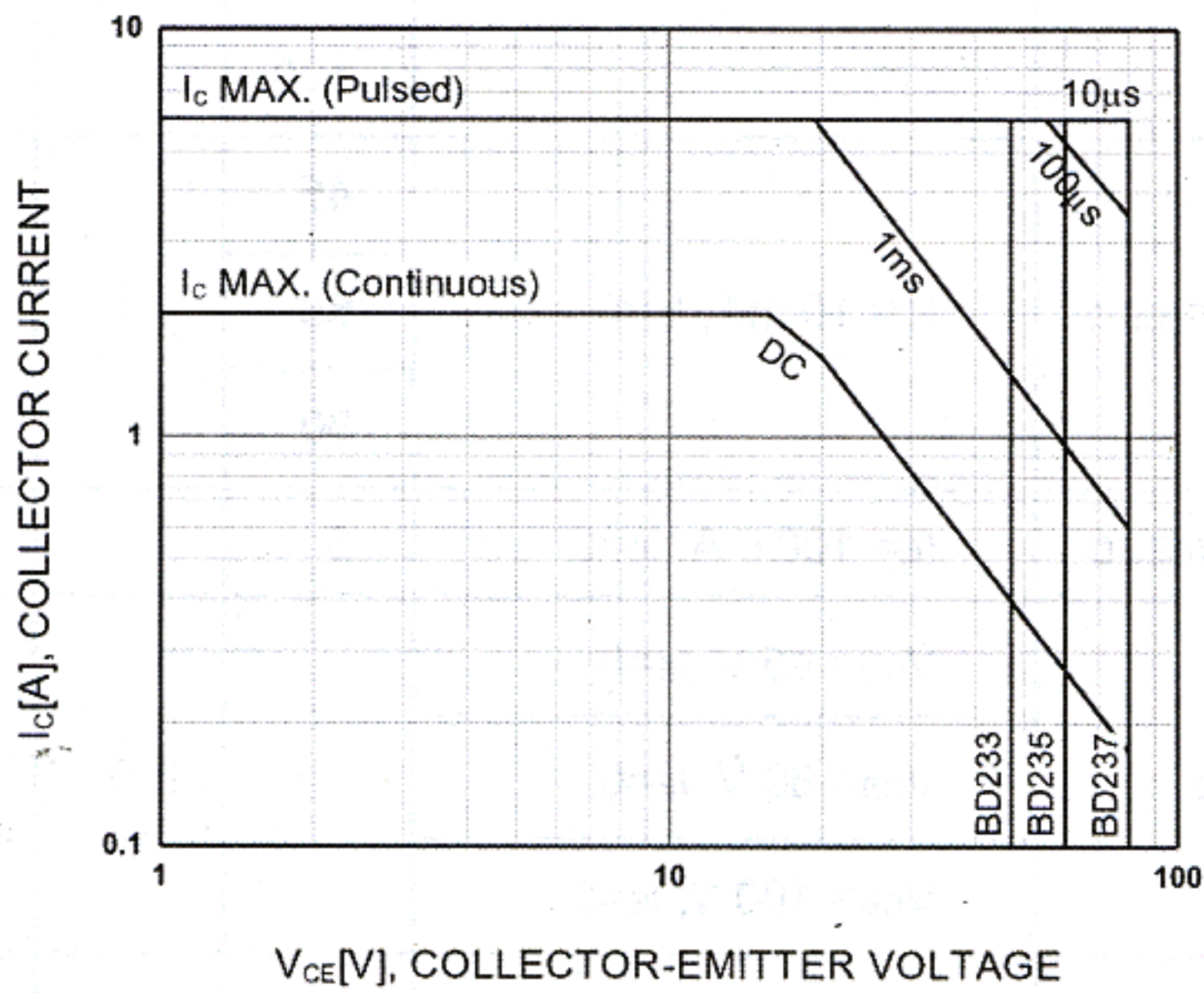
**BD233/235/237**



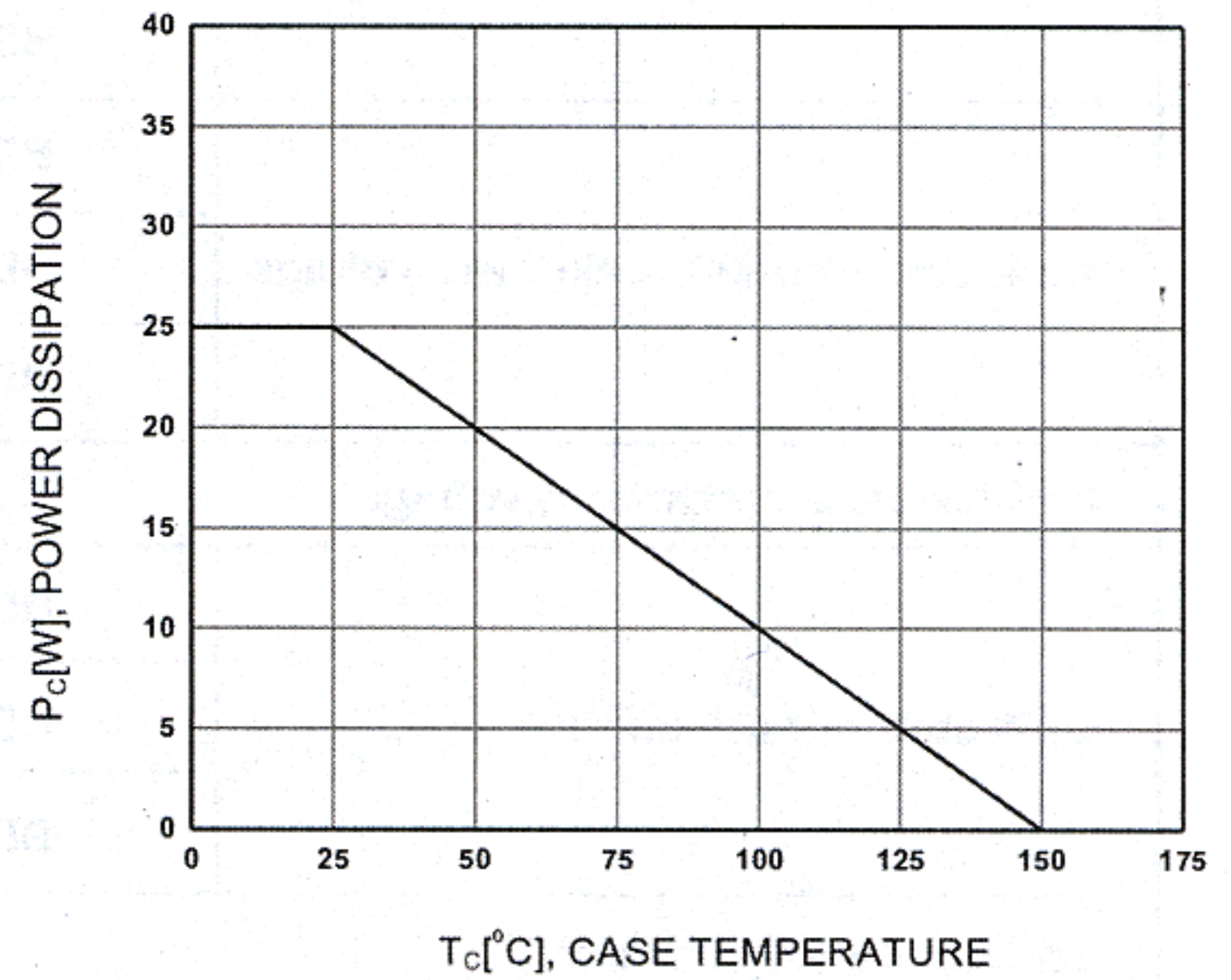
**DC current Gain**



**Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Safe Operating Area**



**Power Derating**