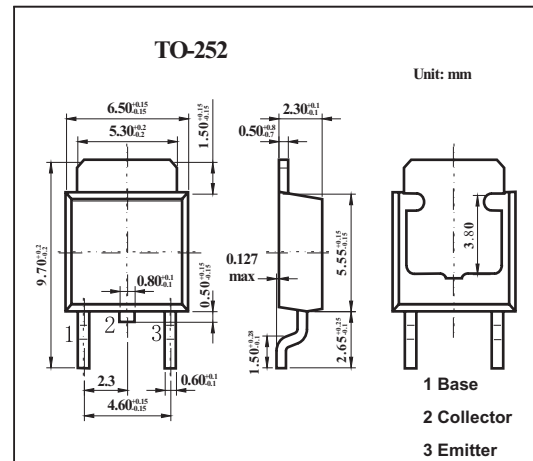


## Silicon PNP Triple Diffused Type

## 2SB1667

## ■ Features

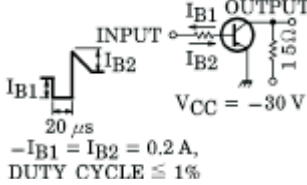
- Low collector saturation voltage.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit	
Collector-base voltage	$V_{CB0}$	-60	V	
Collector-emitter voltage	$V_{CEO}$	-60	V	
Emitter-base voltage	$V_{EBO}$	-7	V	
Collector current	$I_C$	-3	A	
Base current	$I_B$	-0.5	A	
Collector power dissipation	$P_C$	$T_a = 25^\circ\text{C}$	1.5	W
		$T_C = 25^\circ\text{C}$	25	W
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature range	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

## 2SB1667

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cut-off current	$I_{CBO}$	$V_{CB} = -60\text{ V}, I_E = 0$			-100	$\mu\text{A}$	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -7\text{ V}, I_C = 0$			-100	$\mu\text{A}$	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -50\text{ mA}, I_B = 0$	-60			V	
DC current gain	hFE	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$	60		300		
		$V_{CE} = -5\text{ V}, I_C = -3\text{ A}$	20				
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.3\text{ A}$		-0.5	-1.7	V	
Base-emitter voltage	$V_{BE}$	$V_{CE} = -5\text{ A}, I_C = -0.5\text{ A}$		-0.7	-1.0	V	
Transition frequency	$f_T$	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$		9		MHz	
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		150		pF	
Turn-on time	$t_{on}$	 <p> <math>I_{B1}</math> INPUT <math>I_{B2}</math> OUTPUT  <math>V_{C1} = -30\text{ V}</math>  <math>20\ \mu\text{s}</math>  <math>-I_{B1} = I_{B2} = 0.2\text{ A}</math>            DUTY CYCLE <math>\leq 1\%</math> </p>		0.4		$\mu\text{s}$	
Storage time	$t_{stg}$				1.7		$\mu\text{s}$
Fall time	$t_f$				0.5		$\mu\text{s}$

## ■ hFE Classification

Rank	O	Y
hFE	60~120	100~200