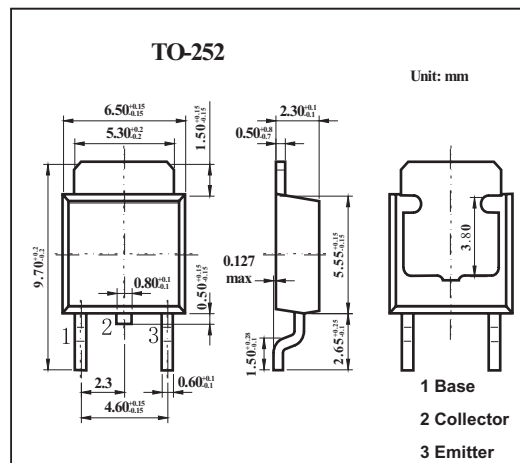


## 2SB1169A

### ■ Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity.
- Low collector-emitter saturation voltage  $V_{CE(sat)}$ .



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-80	V
Collector-emitter voltage	$V_{CEO}$	-80	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-1	A
Peak collector current	$I_{CP}$	-2	A
Collector power dissipation	$P_C$	1.3	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-emitter voltage	$V_{CEO}$	$I_C = -30\text{ mA}, I_B = 0$	-80			V
Base to emitter voltage	$V_{BE}$	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$			-1.3	V
Collector-emitter cutoff current	$I_{CES}$	$V_{CE} = -80\text{ V}, V_{BE} = 0$			-200	$\mu\text{A}$
Collector-emitter cutoff current	$I_{CEO}$	$V_{CE} = -60\text{ V}, I_B = 0$			-300	$\mu\text{A}$
Emitter-base cutoff current	$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$			-1	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = -4\text{ V}, I_C = -0.2\text{ A}$	40		450	V
		$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{ A}, I_B = -0.125\text{ A}$			-1	V
Transition frequency	$f_r$	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 10\text{ MHz}$		40		MHz
Turn-on time	$t_{on}$	$I_C = -1\text{ A}, I_{B1} = -50\text{ mA}, I_{B2} = 50\text{ mA}, V_{CC} = -50\text{ V}$		0.5		$\mu\text{s}$
Storage time	$t_{stg}$			1.2		$\mu\text{s}$
Fall time	$t_f$			0.3		$\mu\text{s}$

### ■ $h_{FE}$ Classification

Rank	R	Q	P	O
$h_{FE}$	40~90	70~150	120~250	200~450