

PNP Transistors

2SB1169A

■ Features

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

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

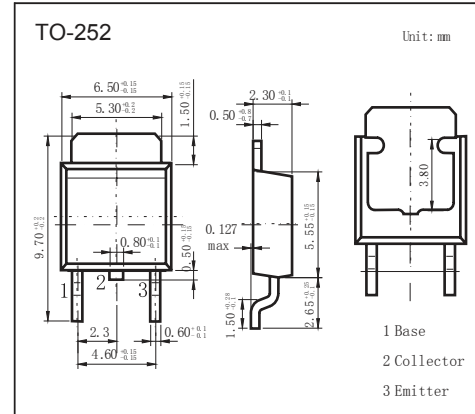
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-80	V
Collector - Emitter Voltage	V_{CEO}	-80	
Emitter - Base Voltage	V_{EBO}	-5	
Collector Current - Continuous	I_C	-1	A
Collector current -Pulse	I_{CP}	-2	
Collector Power Dissipation	P_C	15	W
$T_a = 25^\circ\text{C}$		1.3	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = -100 \mu\text{A}$, $I_E = 0$	-80			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = -30 \text{ mA}$, $I_B = 0$	-80			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100 \mu\text{A}$, $I_C = 0$	-5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -80\text{V}$, $I_E = 0$			-0.1	mA
Collector-emitter cut-off current	I_{CES}	$V_{CE} = -80 \text{ V}$, $I_B = 0$			-200	uA
Collector-emitter cut-off current	I_{CEO}	$V_{CE} = -60 \text{ V}$, $I_B = 0$			-300	
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-0.1	mA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1 \text{ A}$, $I_B = -125\text{mA}$			-1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1 \text{ A}$, $I_B = -125\text{mA}$			-1.2	
Base - emitter voltage	V_{BE}	$V_{CE} = -4\text{V}$, $I_C = -1 \text{ A}$			-1.3	
DC current gain	h_{FE}	$V_{CE} = -4\text{V}$, $I_C = -200 \text{ mA}$	40		450	
		$V_{CE} = -4\text{V}$, $I_C = -1 \text{ A}$	15			
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		us
Storage Time	t_{stg}			1.2		
Fall Time	t_f				0.3	
Transition frequency	f_T	$V_{CE} = -10\text{V}$, $I_C = -500\text{mA}$, $f = 10\text{MHz}$		40		MHz

■ Classification of $h_{FE}(1)$

Type	2SB1169A-R	2SB1169A-Q	2SB1169A-P	2SB1169A-O
Range	40-90	70-150	120-250	200-450



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Typical Characteristics

