

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 $T_a = 25^\circ\text{C}$

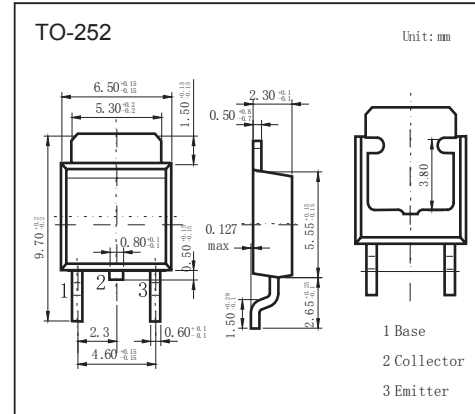
Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-80	V
Collector - Emitter Voltage	V_{CEO}	-80	
Emitter - Base Voltage	V_{EBO}	-5	
Collector Current - Continuous	I_C	-1	A
Collector current -Pulse	I_{CP}	-2	
Collector Power Dissipation	P_C	15	W
$T_a = 25^\circ\text{C}$		1.3	
Junction Temperature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

■ 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

