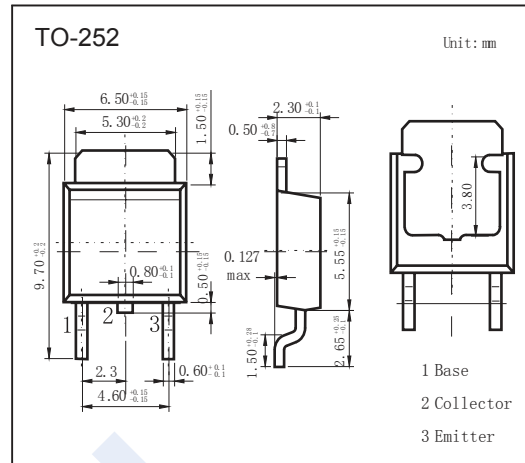


PNP Transistors

2SB930A

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Complementary to 2SD1253A

■ 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	-4	A	
Collector current - Pulse	I_{CP}	-8		
Collector Power Dissipation	P_C	$T_c = 25^\circ\text{C}$	40	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 cutoff current	I_{CES}	$V_{CE} = -80\text{V}$, $V_{BE} = 0$			-400	μA
Collector cutoff current	I_{CEO}	$V_{CE} = -60\text{V}$, $I_B = 0$			-700	
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-0.1	mA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4 \text{A}$, $I_B = -400\text{mA}$			-1.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4 \text{A}$, $I_B = -400\text{mA}$			-1.2	
Base - emitter voltage	V_{BE}	$V_{CE} = -4 \text{V}$, $I_C = -3 \text{A}$			-2	
DC current gain	$h_{FE(1)}$	$V_{CE} = -4 \text{V}$, $I_C = -1 \text{A}$	70		250	
	$h_{FE(2)}$	$V_{CE} = -4 \text{V}$, $I_C = -3 \text{A}$	15			
Turn-on time	t_{on}	$I_C = -4\text{A}$, $I_{B1} = -0.4\text{A}$, $I_{B2} = 0.4\text{A}$		0.2		μs
Storage time	t_{stg}			0.5		
Fall time	t_f			0.2		
Transition frequency	f_T	$V_{CE} = -10\text{V}$, $I_C = -100\text{mA}$, $f = 1\text{MHz}$		20		MHz

■ Classification of $h_{FE(1)}$

Type	2SB930A-Q	2SB930A-P
Range	70-150	120-250

PNP Transistors

2SB930A

■ Typical Characteristics

