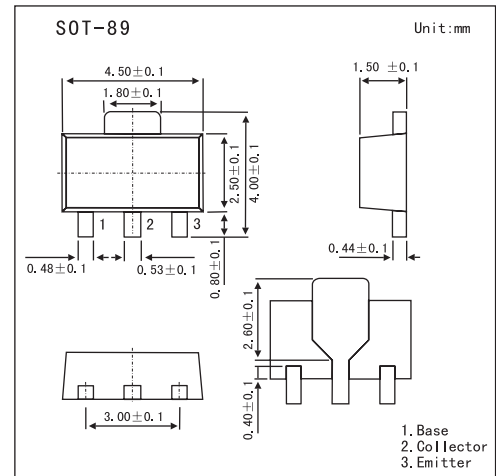


## PNP/NPN Epitaxial Planar Silicon Transistors

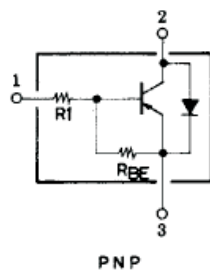
## 2SB1394

## ■ Features

- Contains input resistance (R1), base-to-emitter resistance (RBE).
- Contains diode between collector and emitter.
- Low saturation voltage.
- Large current capacity.
- Small-sized package making it easy to provide highdensity, small-sized hybrid ICs.



## ■ Electrical Connection

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-30	V
Emitter-base voltage	$V_{EBO}$	-6	V
Collector current	$I_C$	-3	A
Collector current (pulse)	$I_{CP}$	-5	A
Collector dissipation	$P_C^*$	1.5	W
Jumction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* Mounted on ceramic board (250mm<sup>2</sup>X0.8mm)

**2SB1394**

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	ICBO	V <sub>CB</sub> = -30V , I <sub>E</sub> = 0			-1	μA
DC current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -2V , I <sub>C</sub> = -0.5A	70			
		V <sub>CE</sub> = -2V , I <sub>C</sub> = -2A	50			
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = -2V , I <sub>C</sub> = -0.5A		100		MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V , f = 1MHz		55		pF
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1A , I <sub>B</sub> = -50mA		-0.18	-0.4	V
Base-emitter on state voltage	V <sub>BE(ON)</sub>	V <sub>CE</sub> = -2V , I <sub>C</sub> = -1A	-0.7	-1.5	-4	V
Collector-to-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA , I <sub>E</sub> = 0	-40			V
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO1</sub>	I <sub>C</sub> = -10μA , R <sub>BE</sub> = ∞	-40			V
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO2</sub>	I <sub>C</sub> = -10mA , R <sub>BE</sub> = ∞	-30			
Diode forward voltage	V <sub>F</sub>	I <sub>F</sub> =0.5A			-1.5	V
Base-emitter resistance	R <sub>BE</sub>			0.8		KΩ
Base resistance	R <sub>1</sub>		60	90	120	Ω

## ■ Marking

Marking	BN
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