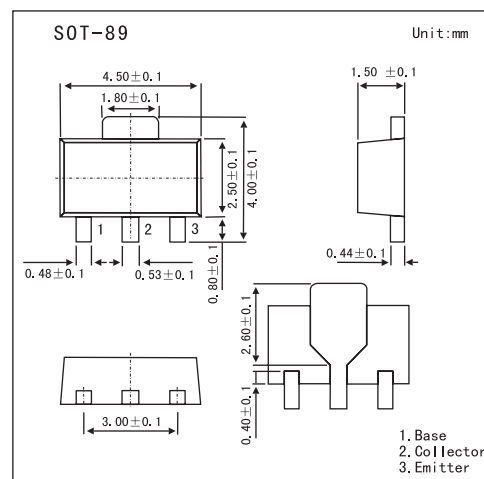


PNP/NPN Epitaxial Planar Silicon Transistors

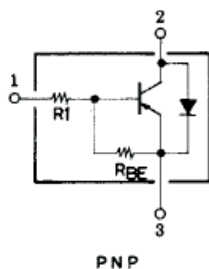
2SB1394

■ 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
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* Mounted on ceramic board (250mm²X0.8mm)

2SB1394■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -30V, I_E = 0$			-1	μA
DC current Gain	h_{FE}	$V_{CE} = -2V, I_C = -0.5A$	70			
		$V_{CE} = -2V, I_C = -2A$	50			
Gain bandwidth product	f_T	$V_{CE} = -2V, I_C = -0.5A$		100		MHz
Output capacitance	C_{ob}	$V_{CB} = -10V, f = 1\text{MHz}$		55		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -50\text{mA}$		-0.18	-0.4	V
Base-emitter on state voltage	$V_{BE(ON)}$	$V_{CE} = -2V, I_C = -1A$	-0.7	-1.5	-4	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-40			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO1}$	$I_C = -10\mu\text{A}, R_{BE} = \infty$	-40			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO2}$	$I_C = -10\text{mA}, R_{BE} = \infty$	-30			
Diode forward voltage	V_F	$I_F = 0.5A$			-1.5	V
Base-emitter resistance	R_{BE}			0.8		$\text{K}\Omega$
Base resistance	R_1		60	90	120	Ω

■ Marking

Marking	BN
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