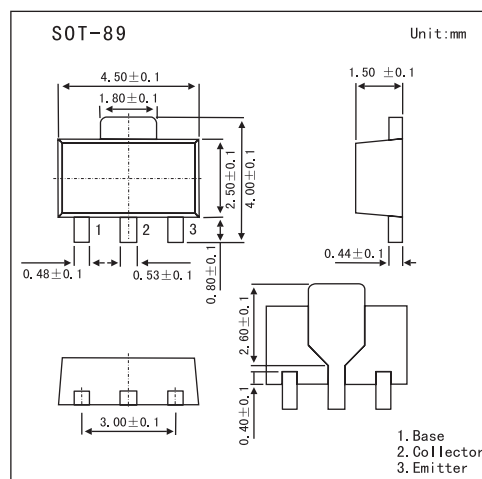


## Silicon PNP Epitaxial Planar Type

## 2SB1599

## ■ Features

- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-50	V
Collector-emitter voltage	$V_{CE0}$	-40	V
Emitter-base voltage	$V_{EB0}$	-5	V
Peak collector current	$I_{CP}$	-3	A
Collector current	$I_C$	-0.6	A
Collector power dissipation	$P_C$	1	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CB0}$	$V_{CB} = -20\text{ V}, I_E = 0$			-1	$\mu\text{A}$
	$I_{CE0}$	$V_{CE} = -12\text{ V}, I_B = 0$			-100	$\mu\text{A}$
Emitter cutoff current	$I_{EB0}$	$V_{EB} = -5\text{ V}, I_C = 0$			-100	$\mu\text{A}$
Collector-base voltage	$V_{CB0}$	$I_C = -1\text{ mA}, I_E = 0$	-50			V
Collector-emitter voltage	$V_{CE0}$	$I_C = -10\text{ mA}, I_B = 0$	-40			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = -5\text{ V}, I_C = -1\text{ A}$	50		220	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1.5\text{ A}, I_B = -0.15\text{ A}$		-0.4	-1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{ A}, I_B = -0.2\text{ A}$			-1.5	V
Transition frequency	$f_T$	$V_{CB} = -5\text{ V}, I_E = 0.5\text{ A}, f = 200\text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -5\text{ V}, I_E = 0, f = 1\text{ MHz}$		70		pF

■  $h_{FE}$  Classification

Marking	1X		
Rank	P	Q	R
$h_{FE}$	50~100	80~160	100~220