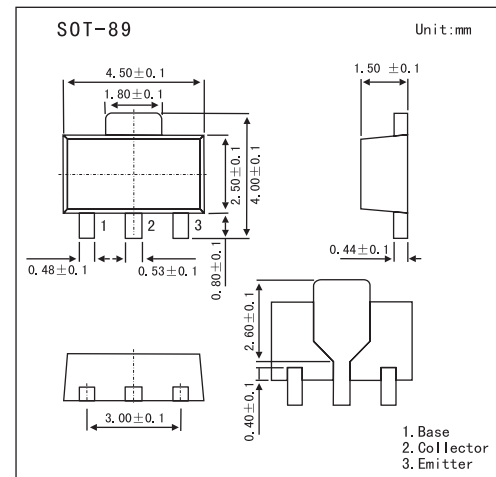


## PNP Epitaxial Planar Silicon

## 2SA1766

## ■ Features

- Adoption of FBET, MBIT processes.
- High DC current gain ( $h_{FE}=500$  to  $1200$ ).
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High  $V_{EBO}$ .

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-30	V
Collector-emitter voltage	$V_{CEO}$	-25	V
Emitter-base voltage	$V_{EBO}$	-15	V
Collector current	$I_C$	-300	mA
Collector current (pulse)	$I_{CP}$	-500	mA
Base current	$I_B$	-60	mA
Collector dissipation	$P_C$	1.3	mW
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	$I_{CBO}$	$V_{CB} = -20\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -10\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
DC current Gain	$h_{FE}$	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$	500	800	1200	
Gain bandwidth product	$f_T$	$V_{CE} = -10\text{V}, I_C = -10\text{mA}$		100		MHz
Common base output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		12		pF
Collector-to-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -200\text{mA}, I_B = -4\text{mA}$		-0.12	-0.5	V
Base-to-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -200\text{mA}, I_B = -4\text{mA}$		-0.77	-1.1	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-30			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, R_{BE} = \infty$	-25			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-15			V

## ■ Marking

Marking	AL