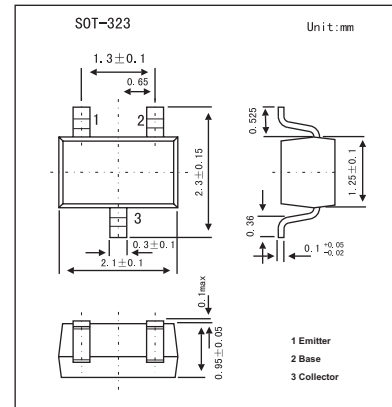


PNP Silicon Epitaxia

2SA1611

■ Features

- High DC Current Gain.
- High Voltage.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-60	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Total power dissipation	P_T	150	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}	$V_{CB} = -60\text{V}, I_E = 0$			-0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	μA
DC current gain *	h_{FE}	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$		-0.18	-0.3	V
Base-emitter voltage	V_{BE}	$V_{CE} = -6\text{V}, I_C = 1\text{mA}$	-0.58	-0.62	-0.68	V
Gain bandwidth product	f_T	$V_{CE} = -6\text{V}, I_E = 10\text{mA}$		180		MHz
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1.0\text{MHz}$		4.5		pF

* Pulse test: $t_p \leq 300 \mu\text{s}$; $d \leq 0.02$.

■ h_{FE} Classification

Marking	M4	M5	M6	M7
h_{FE}	90~180	135~270	200~400	300~600