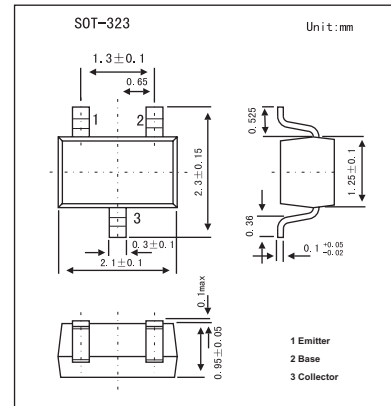


PNP Epitaxial Planar Silicon Transistors

2SA1745

■ Features

- Very small-sized package.
- Low collector-to-emitter saturation voltage.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-20	V
Collector-emitter voltage	V_{CEO}	-15	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-500	mA
Collector current (pulse)	I_{CP}	-1	A
Collector dissipation	P_C	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}	$V_{CB} = -15\text{V}, I_E = 0$			-0.1	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	nA
DC current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -10\text{mA}$	135		600	
Gain bandwidth product	f_T	$V_{CE} = -2\text{V}, I_C = -50\text{mA}$		400		MHz
Common base output capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		6.5		pF
Collector-to-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -5\text{mA}, I_B = -0.5\text{mA}$		-15	-35	mV
		$I_C = -200\text{mA}, I_B = -10\text{mA}$		-200	-360	mV
Base-to-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -200\text{mA}, I_B = -10\text{mA}$		-0.95	-1.2	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-20			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, R_{BE} = \infty$	-15			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5			V

■ hFE Classification

Marking	ES		
Rank	5	6	7
hFE	135~270	200~400	300~600