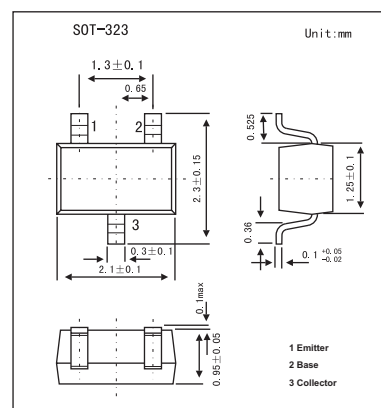


NPN Silicon Epitaxia

2SC4177

■ 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_{CE0}	50	V
Emitter-base voltage	V_{EB0}	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}	$V_{CE} = 6\text{V}, I_C = 1.0\text{mA}$	90	200	600	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$		0.15	0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$		0.86	1.0	V
Base emitter voltage *	V_{BE}	$V_{CE} = 6\text{V}, I_C = 1.0\text{mA}$	0.55	0.62	0.65	V
Gain bandwidth product	f_T	$V_{CE} = 6\text{V}, I_E = -10\text{mA}$		250		MHz
Output capacitance	C_{ob}	$V_{CE} = 6\text{V}, I_E = 0, f = 1\text{MHz}$		3.0		pF

*. $PW \leq 350\mu\text{s}$, duty cycle $\leq 2\%$

■ h_{FE} Classification

Marking	L4	L5	L6	L7
h_{FE}	90~180	135~270	200~400	300~600