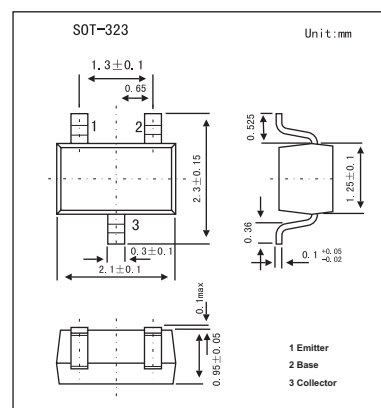


NPN Silicon Epitaxia

2SC4179

■ Features

- High gain bandwidth product.
- Low output capacitance.
- Low noise figure.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	50	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}	$V_{CB} = 50\text{V}, I_E = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			0.1	μA
DC current gain *	h_{FE}	$V_{CE} = 6\text{V}, I_C = 1.0\text{mA}$	60	100	180	
Base-emitter voltage *	V_{BE}	$V_{CE} = 6\text{V}, I_C = 1.0\text{mA}$	0.65	0.70	0.75	V
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$		0.08	0.3	V
Gain bandwidth product	f_T	$V_{CE} = 6\text{V}, I_E = -1.0\text{mA}$	150	250		MHz
Output capacitance	C_{ob}	$V_{CE} = 6\text{V}, I_E = 0, f = 1\text{MHz}$		1.9	2.2	pF
Collector to base time constant	$C_c'rb'b$	$V_{CB} = 6\text{V}, I_E = -10\text{mA}, f = 31.9\text{MHz}$		10	15	ps
Noise figure	NF	$V_{CE} = 6\text{V}, I_E = -1.0\text{mA}, R_g = 500\Omega, f = 1.0\text{MHz}$		2	4	dB

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

■ h_{FE} Classification

Marking	FA3	FA4
h_{FE}	60~120	90~180