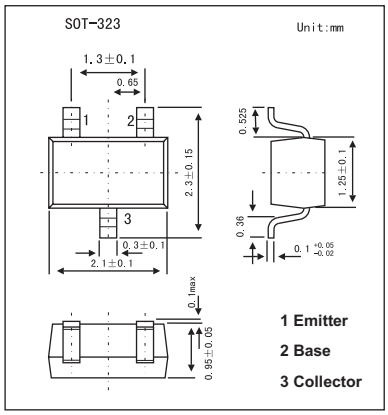
NPN Silicon Epitaxial Transistor

2SC4180

■ Features

- Small dimension
- High DC current gain



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	120	V
Collector-emitter voltage	V_{CEO}	120	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	℃
Storage temperature	T_{stg}	-55 to +150	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 120V, I_E=0			0.05	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5V, I_C=0			0.05	μA
DC current gain	h_{FE}	V_{CE} = 6V , I_C = 1mA*	135	600	900	
		V_{CE} = 6V , I_C = 0.1mA	100	580		
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 10mA , I_B = 1mA		0.07	0.3	V
Base-emitter voltage *	V_{BE}	V_{CE} =6V , I_C = 1mA	0.55	0.59	0.65	V
Gain bandwidth product	f_T	V_{CE} = 6V , I_E = -1mA	50	110		MHz
Output capacitance	C_{ob}	V_{CB} = 30V , I_E = 0 , f = 1.0MHz		1.6	2.5	pF

* Pulse test: tp ⩽ 350 μs; d ⩽ 0.02.

■ h_{FE} Classification

Marking	D15	D16	D17	D18
hFE	135～270	200～400	300～600	450～900