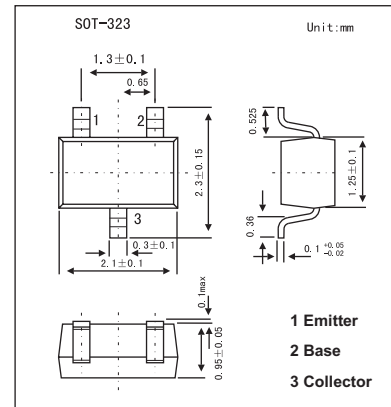


## NPN Silicon Epitaxial Transistor

### 2SC4180

#### ■ Features

- Small dimension
- High DC current gain



#### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	120	V
Collector-emitter voltage	$V_{CE0}$	120	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_C$	50	mA
Total power dissipation	$P_T$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 120V, I_E = 0$			0.05	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$			0.05	$\mu A$
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:  $t_p \leq 350 \mu s; d \leq 0.02$ .

#### ■ $h_{FE}$ Classification

Marking	D15	D16	D17	D18
$h_{FE}$	135~270	200~400	300~600	450~900