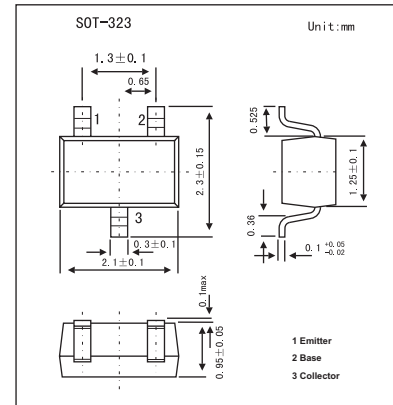


NPN Silicon Epitaxia

2SC4181A

■ Features

- High DC current gain: $h_{FE}=1000$ to 3200
- Low $V_{CE(sat)}$: $V_{CE(sat)}=0.07V$ TYP
- High V_{EBO} : $V_{EBO}=15V$



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	15	V
Collector current	I_C	150	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}	$V_{CB} = 50V, I_E=0$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 10V, I_C=0$			100	nA
DC current gain *	h_{FE}	$V_{CE} = 5.0V, I_C = 1.0mA$	1000	1800	3200	
Base-emitter voltage *	V_{BE}	$V_{CE} = 5.0V, I_C = 1.0mA$		0.56		V
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5.0mA$		0.07	0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 50mA, I_B = 5.0mA$		0.8	1.2	V
Gain bandwidth product	f_T	$V_{CE} = 5.0V, I_E = -10mA$		250		MHz
Output capacitance	C_{ob}	$V_{CB} = 5.0V, I_E = 0, f = 1.0MHz$		3.0		pF
Turn-on time	t_{on}	$V_{CC} = 10V, V_{BE(off)} = -2.7V$		0.13		ns
Storage time	t_{stg}	$I_C = 150mA,$		0.72		ns
Turn-off time	t_{off}	$I_{B1} = -I_{B2} = 15mA$		1.22		ns

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

■ h_{FE} Classification

Marking	L15	L16
h_{FE}	1000~2000	1600~3200