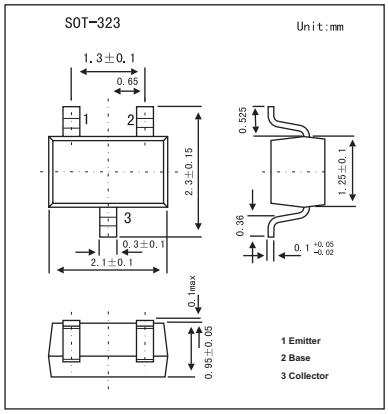
NPN Silicon Epitaxia

2SC4178



Features

- Micro package.
- High gain bandwidth product.
- Low output capacitance.

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	4	V
Collector current	I_C	20	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} = 30V, I_E=0			100	nA
DC current gain *	h_{FE}	V_{CE} = 6V , I_C = 1.0mA	40	90	180	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 10mA , I_B = 1.0mA		0.1	0.3	V
Gain bandwidth product	f_T	V_{CE} = 6V , I_E = -1.0mA	400	600		MHz
Output capacitance	C_{ob}	V_{CE} = 6V , I_E = 0, f = 1MHz		1.0		pF
Collector to base time constant	Cc'rb'b	V_{CE} = 6V , I_E = -1.0mA , f = 31.9MHz		12		ps
Noise figure	NF	V_{CE} = 6V , I_E = -1.0mA , Rg = 50Ω, f = 100MHz		3		dB

h_{FE} Classification

Marking	F12	F13	F14
hFE	40～80	60～120	90～180