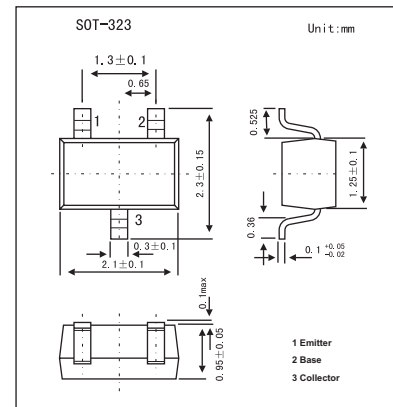


## NPN Silicon Epitaxia

## 2SC4173

## ■ Features

- High gain bandwidth product:  $f_T=200\text{MHz}$  min.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	60	V
Collector-emitter voltage	$V_{CEO}$	40	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	500	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	$I_{CBO}$	$V_{CB} = 40\text{V}$ , $I_E = 0$			100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4\text{V}$ , $I_C = 0$			100	nA
DC current gain *	$h_{FE}$	$V_{CE} = 1\text{V}$ , $I_C = 150\text{mA}$	75	150	300	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 500\text{mA}$ , $I_B = 50\text{mA}$		0.25	0.75	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 500\text{mA}$ , $I_B = 50\text{mA}$		1.0	1.2	V
Gain bandwidth product	$f_T$	$V_{CE} = 10\text{V}$ , $I_E = -20\text{mA}$	200	400		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1.0\text{MHz}$		3.5	8.0	pF
Turn-on time	$t_{on}$	$V_{CC} = 30\text{V}$ ,		30		ns
Storage time	$t_{stg}$	$I_C = 150\text{mA}$ ,		150		ns
Turn-off time	$t_{off}$	$I_{B1} = -I_{B2} = 15\text{mA}$		180		ns

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

■  $h_{FE}$  Classification

Marking	B12	B13	B14
$h_{FE}$	75~150	100~200	150~300