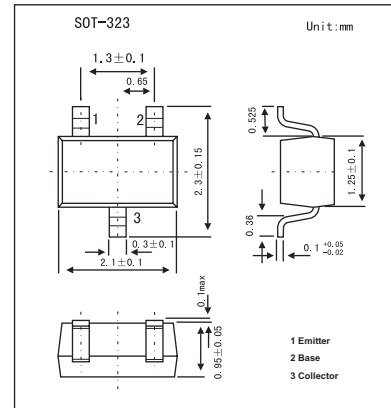


## Silicon NPN Epitaxial

## 2SC4213

## ■ Features

- High emitter-base voltage:  $V_{EBO} = 25\text{ V}$  (min).
- High reverse hFE: Reverse hFE = 150 (typ.) ( $V_{CE} = -2\text{ V}$ ,  $I_C = -4\text{ mA}$ ).
- Low on resistance:  $R_{ON} = 1\ \Omega$  (typ.) ( $I_B = 5\text{ mA}$ ).
- High DC current gain: hFE = 200~1200.
- Small package.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	25	V
Collector current	$I_C$	300	mA
Base current	$I_B$	60	mA
Collector power dissipation	$P_C$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50\text{ V}$ , $I_E = 0$			0.1	$\mu\text{A}$	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 25\text{ V}$ , $I_C = 0$			0.1	$\mu\text{A}$	
DC current gain	hFE	$V_{CE} = 2\text{ V}$ , $I_C = 4\text{ mA}$	200		1200		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{ mA}$ , $I_B = 3\text{ mA}$		0.042	0.1	V	
Base-emitter voltage	$V_{BE}$	$V_{CE} = 2\text{ V}$ , $I_C = 4\text{ mA}$		0.61		V	
Transition frequency	$f_T$	$V_{CE} = 6\text{ V}$ , $I_C = 4\text{ mA}$		30		MHz	
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$		4.8	7	pF	
Turn-on time	$t_{on}$			160		ns	
Storage time	$t_{stg}$				500		ns
Fall time	$t_f$				130		ns

## ■ hFE Classification

Marking	AA	AB
hFE	200~700	350~1200