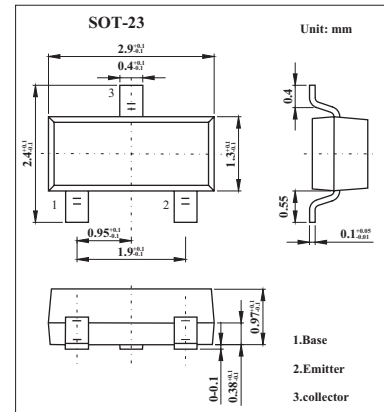


## Silicon NPN Epitaxial Planar Type

## 2SD814,2SD814A

## ■ Features

- High collector-emitter voltage  $V_{CE0}$
- Low noise voltage NV

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	2SD814	150	V
	2SD814A	185	V
Collector-emitter voltage	2SD814	150	V
	2SD814A	185	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	50	mA
Peak collector current	$I_{CP}$	100	mA
Collector power dissipation	$P_C$	200	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-base cutoff current	$I_{CBO}$	$V_{CB} = 100\text{ V}, I_E = 0$			1	$\mu\text{A}$
Collector-emitter voltage	$V_{CE0}$	$I_C = 100\ \mu\text{A}, I_B = 0$	150			V
			185			V
Emitter-base voltage	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	90		330	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{ mA}, I_B = 3\text{ mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = -10\text{ mA}, f = 200\text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		2.3		pF
Noise voltage	NV	$V_{CE} = 10\text{ V}, I_C = 1\text{ mA}, G_v = 80\text{ dB}$ $R_g = 100\text{ k}\Omega, \text{Function} = \text{FLAT}$		150		mV

## ■ hFE Classification

Marking	2SD814	PQ	PR	PS
	2SD814A	LQ	LR	LS
Rank	Q	R	S	
hFE	90~155	130~220	185~330	