

## Silicon NPN Epitaxial Planar Type

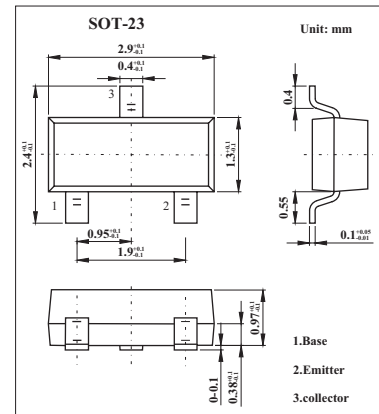
## 2SD1328

## ■ Features

- Low ON resistance  $R_{on}$ .
- Low collector-emitter saturation voltage  $V_{CE(sat)}$ .
- High forward current transfer ratio  $h_{FE}$ .

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	25	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	12	V
Collector current	$I_C$	1	A
Peak collector current	$I_{CP}$	0.5	A
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 cutoff current	$I_{CBO}$	$V_{CB} = 25\text{ V}, I_E = 0$			100	nA
Collector-base voltage	$V_{CBO}$	$I_C = 10\ \mu\text{A}, I_E = 0$	25			V
Collector-emitter voltage	$V_{CEO}$	$I_C = 1\ \text{mA}, I_B = 0$	20			V
Emitter-base voltage	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	12			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 2\ \text{V}, I_C = 0.5\ \text{A}$	200		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 0.5\ \text{A}, I_B = 20\ \text{mA}$		0.13	0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 0.5\ \text{A}, I_B = 50\ \text{mA}$			1.2	V
Transition frequency	$f_T$	$V_{CB} = 10\ \text{V}, I_E = -50\ \text{mA}, f = 200\ \text{MHz}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\ \text{V}, I_E = 0, f = 1.0\ \text{MHz}$		10		pF
ON resistance	$R_{on}$			1.0		$\Omega$

■  $h_{FE}$  Classification

Marking	1D		
Rank	R	S	T
$h_{FE}$	200~350	300~500	400~800