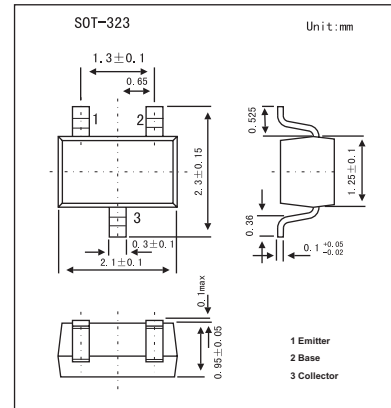


## NPN Silicon Epitaxia

## 2SD2228

## ■ Features

- High dc current.
- Low collector saturation voltage.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	25	V
Collector-emitter voltage	$V_{CE0}$	16	V
Emitter-base voltage	$V_{EB0}$	6	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	$I_{cB0}$	$V_{CB} = 16\text{ V}, I_E = 0$			100	nA
Emitter cutoff current	$I_{EB0}$	$V_{EB} = 6.0\text{ V}, I_c = 0$			100	nA
DC current gain *	$h_{FE}$	$V_{CE} = 1.0\text{ V}, I_c = 100\text{ mA}$	100	200	600	
Collector saturation voltage *	$V_{CE(sat)1}$	$I_c = 100\text{ mA}, I_B = 10\text{ mA}$		45	100	mV
	$V_{CE(sat)2}$	$I_c = 500\text{ mA}, I_B = 20\text{ mA}$		200	300	mV
Base to emitter voltage *	$V_{BE}$	$V_{CE} = 1.0\text{ V}, I_c = 10\text{ mA}$	600	650	700	mV
Gain bandwidth product	$f_T$	$V_{CE} = 3.0\text{ V}, I_E = -100\text{ mA}$	50			MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$			15	pF

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

■  $h_{FE}$  Classification

Marking	D42	D43	D44	D45
$h_{FE}$	110~240	190~320	270~400	350~600