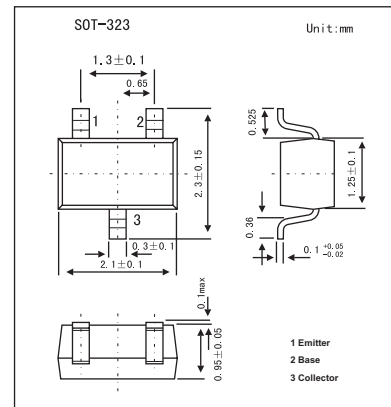


NPN Silicon Epitaxia

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	Testconditons	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