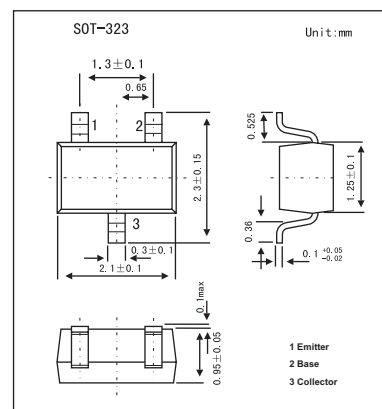


Silicon NPN Epitaxial Planar Type

2SD1979

■ Features

- Low on resistance r_{on} .
- High forward current transfer ratio h_{FE} .

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EB0}	25	V
Collector current	I_C	300	mA
Peak collector current	I_{CP}	500	mA
Collector power dissipation	P_C	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-emitter voltage	V_{CEO}	$I_C = 1\text{ mA}, I_B = 0$	20			V
Base-emitter voltage	V_{BE}	$V_{CE} = 2\text{ V}, I_C = 4\text{ mA}$		0.6		V
Collector-base cutoff current	I_{CBO}	$V_{CB} = 50\text{ V}, I_E = 0$			1	μA
Collector-emitter cutoff current	I_{CEO}	$V_{EB} = 25\text{ V}, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 2\text{ V}, I_C = 4\text{ mA}$	500		2500	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{ mA}, I_B = 3\text{ mA}$			0.1	V
Transition frequency	f_T	$V_{CB} = 6\text{ V}, I_E = -4\text{ mA}, f = 200\text{ MHz}$		80		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		4.5		pF
ON resistance	R_{on}	$R_{on} = \frac{V_B}{V_A - V_B} \times 1000 (\Omega)$		1		Ω

■ h_{FE} Classification

Marking	3W	
Rank	S	T
h_{FE}	500~1500	800~2500