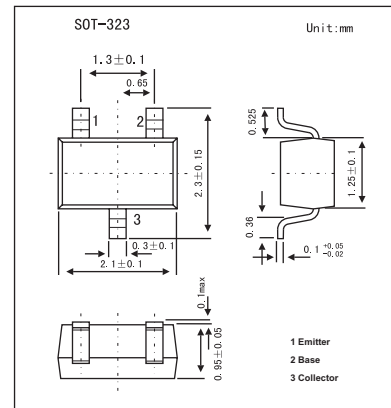


Silicon NPN Epitaxial Planar Type

2SD1823

■ Features

- High forward current transfer ratio h_{FE} .
- Low collector-emitter saturation voltage $V_{CE(sat)}$.
- High emitter-base voltage V_{EBO} .
- Low noise voltage NV .

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	15	V
Collector current	I_C	50	mA
Peak collector current	I_{CP}	100	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-base voltage	V_{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	50			V
Collector-emitter voltage	V_{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	40			V
Emitter-base voltage	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	15			V
Collector-base cutoff current	I_{CBO}	$V_{CB} = 20 \text{ V}, I_E = 0$			0.1	μA
Collector-emitter cutoff current	I_{CEO}	$V_{CE} = 20 \text{ V}, I_B = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10 \text{ V}, I_C = 2 \text{ mA}$	400		2000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$		0.05	0.20	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}, I_E = 2 \text{ mA}, f = 200 \text{ MHz}$		120		MHz

■ h_{FE} Classification

Marking	1Z		
Rank	R	S	T
h_{FE}	400~800	600~1200	1000~2000