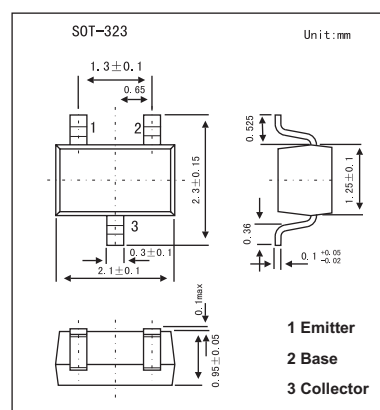


Silicon NPN Epitaxial Planar Type

2SD1821

■ Features

- High collector-emitter voltage V_{CE0}
- Low noise voltage NV

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	150	V
Collector-emitter voltage	V_{CE0}	150	V
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	100	A
Collector current	I_C	50	A
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	Testconditons	Min	Typ	Max	Unit
Collector-emitter voltage	V_{CE0}	$I_C = 100 \mu\text{A}, I_B = 0$	150			V
Emitter-base voltage	V_{EB0}	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current	I_{CBO}	$V_{CB} = 100 \text{V}, I_E = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 5 \text{V}, I_C = 10 \text{mA}$	130		330	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30 \text{mA}, I_B = 3 \text{mA}$				V
Transition frequency	f_T	$V_{CB} = 10 \text{V}, I_E = -10 \text{mA}, f = 200 \text{MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{V}, I_E = 0, f = 1 \text{MHz}$		2.3		pF
Noise voltage	NV	$V_{CE} = 10 \text{V}, I_C = 1 \text{mA}, G_v = 80 \text{dB}, R_g = 100\text{K}\Omega, \text{Function} = \text{FLAT}$		150		mV

■ h_{FE} Classification

Marking	P	
	Q	R
h_{FE}	130~220	185~330