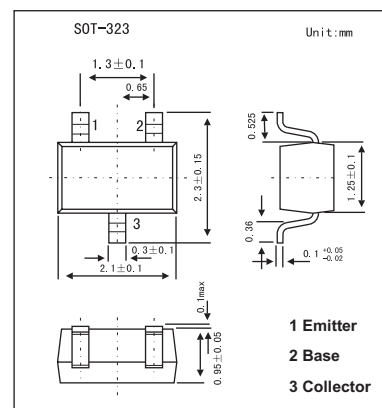


Silicon NPN Epitaxial Planar Type

2SD1821A

■ Features

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



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	185	V
Collector-emitter voltage	V_{CEO}	185	V
Emitter-base voltage	V_{EBO}	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	Testconditions	Min	Typ	Max	Unit
Collector-emitter voltage	V_{CEO}	$I_C = 100\ \mu\text{A}, I_B = 0$	185			V
Emitter-base voltage	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	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	L	
Rank	Q	R
h_{FE}	130~220	185~330