

2SD1821, 2SD1821A

Silicon NPN epitaxial planar type

For high breakdown voltage low-frequency and low-noise amplification

■ Features

- High collector to emitter voltage V_{CE0}
- Low noise voltage NV
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

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

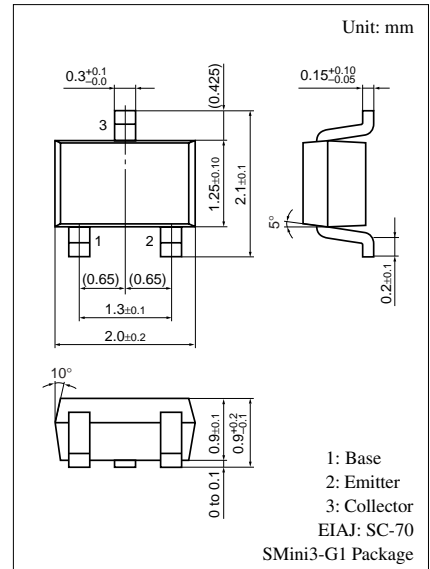
Parameter	Symbol	Rating	Unit	
Collector to base voltage	2SD1821	V_{CBO}	150	V
	2SD1821A		185	
Collector to emitter voltage	2SD1821	V_{CEO}	150	V
	2SD1821A		185	
Emitter to base voltage	V_{EBO}	5	V	
Peak collector current	I_{CP}	100	mA	
Collector current	I_C	50	mA	
Collector power dissipation	P_C	150	mW	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

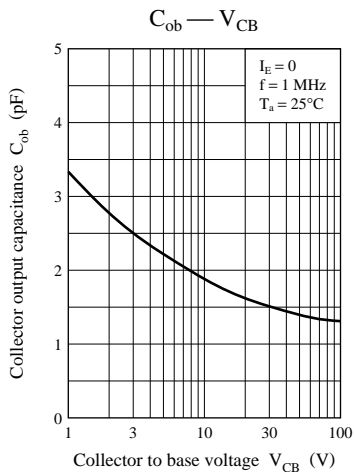
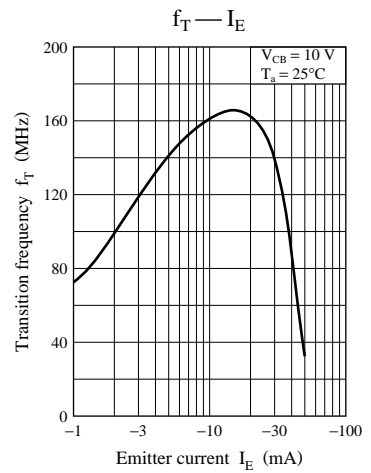
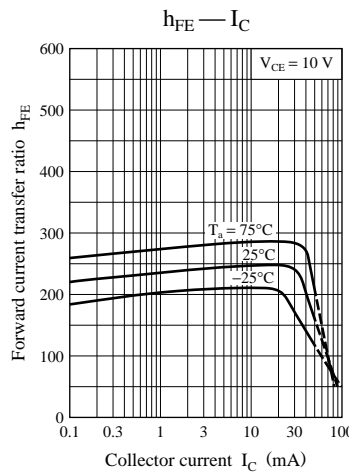
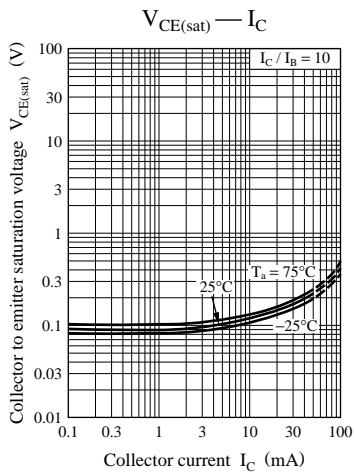
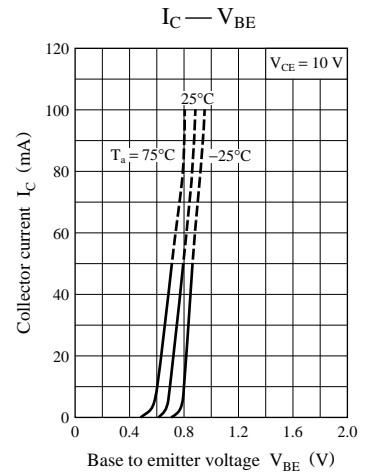
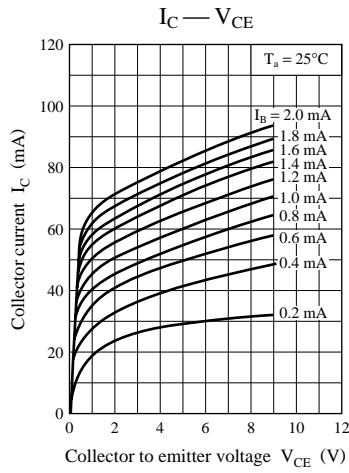
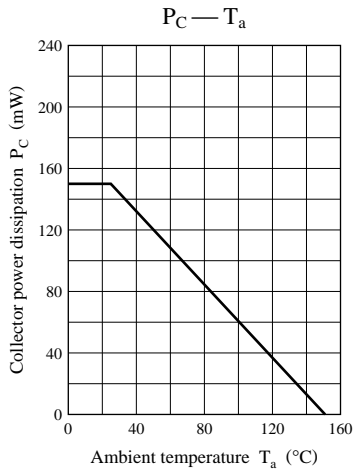
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 100\text{ V}, I_E = 0$			1	μA
Collector to emitter voltage	2SD1821	$I_C = 100\ \mu\text{A}, I_B = 0$	150			V
	2SD1821A		185			
Emitter to base voltage	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio *	h_{FE}	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	130		330	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{ mA}, I_B = 3\text{ mA}$			1	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

Note) *: h_{FE} Rank classification

Rank		R	S
h_{FE1}		130 to 220	185 to 330
Marking symbol	2SD1821	PR	PS
	2SD1821A	LR	LS



Marking symbol: P (2SD1821)
L (2SD1821A)



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