

# 2SD1821, 2SD1821A

## Silicon NPN epitaxial planer type

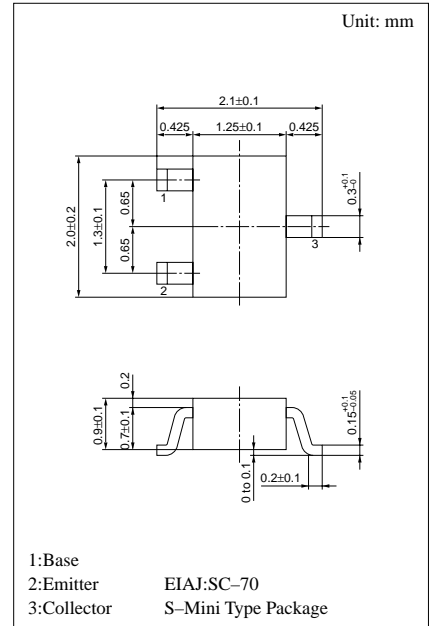
For high breakdown voltage low-frequency and low-noise amplification

### Features

- High collector to emitter voltage  $V_{CEO}$ .
- 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 (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	2SD1821	150	V
	2SD1821A	185	
Collector to emitter voltage	2SD1821	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	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



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

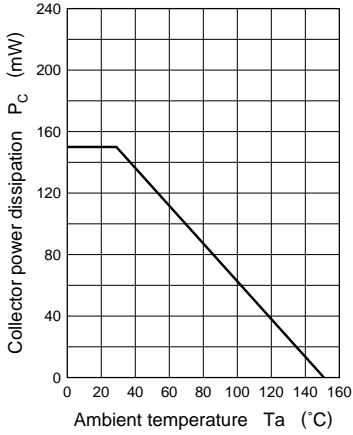
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 100V, I_E = 0$			1	$\mu A$
Collector to emitter voltage	2SD1821	$I_C = 100\mu A, I_B = 0$	150			V
	2SD1821A		185			
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	5			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CE} = 5V, I_C = 10mA$	130		330	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30mA, I_B = 3mA$			1	V
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -10mA, f = 200MHz$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$		2.3		pF
Noise voltage	NV	$V_{CE} = 10V, I_C = 1mA, G_V = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$		150		mV

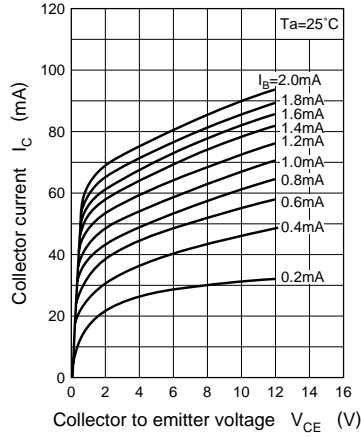
\* $h_{FE}$  Rank classification

Rank	R	S
$h_{FE}$	130 ~ 220	185 ~ 330
Marking	PR	PS
Symbol	LR	LS

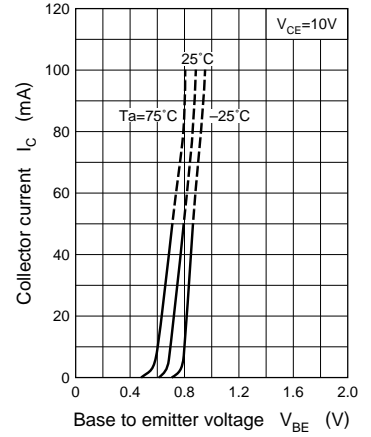
$P_C - T_a$



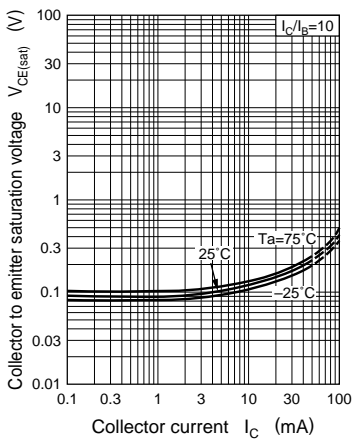
$I_C - V_{CE}$



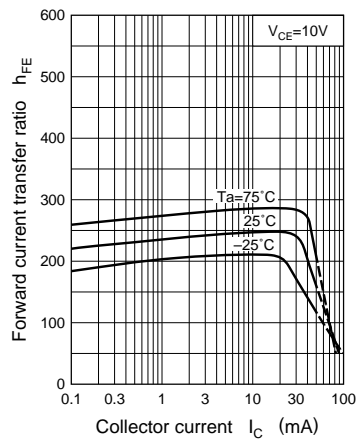
$I_C - V_{BE}$



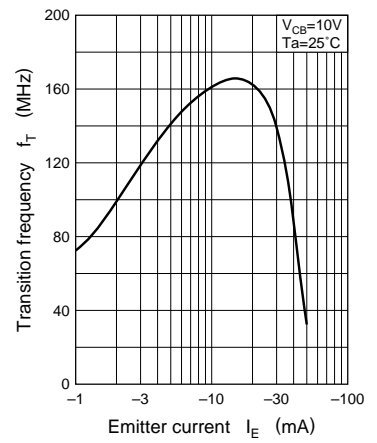
$V_{CE(sat)} - I_C$



$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$

