

2SD1821G

Silicon NPN epitaxial planar type

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

■ Features

- High collector-emitter voltage (Base open) 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	185	V
Collector-emitter voltage (Base open)	V_{CEO}	185	V
Emitter-base voltage (Collector open)	V_{EBO}	5	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	$^\circ\text{C}$

■ Package

- Code
SMini3-F2
- Marking Symbol: L
- Pin Name
1: Base
2: Emitter
3: Collector

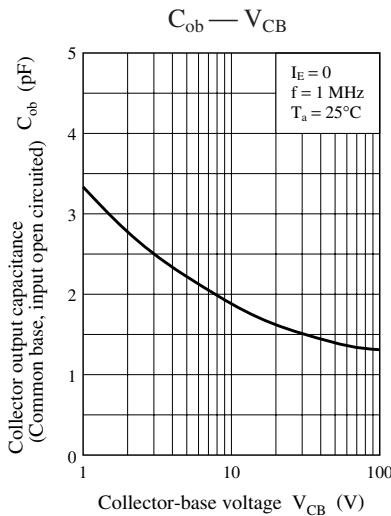
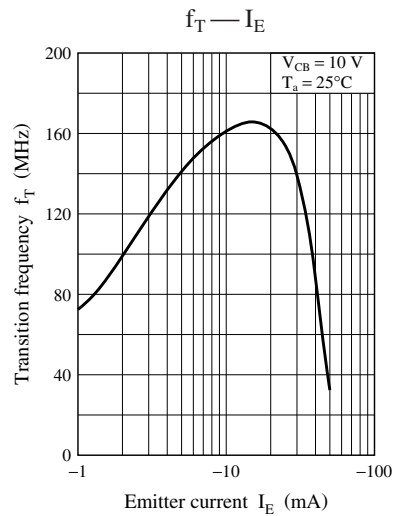
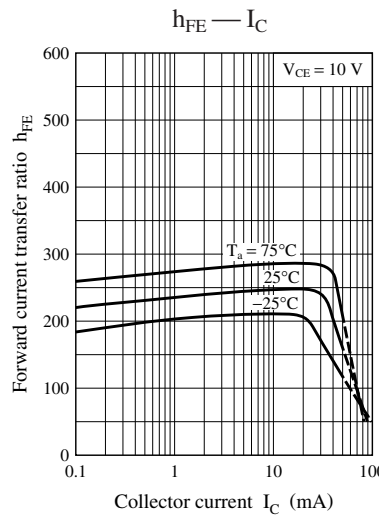
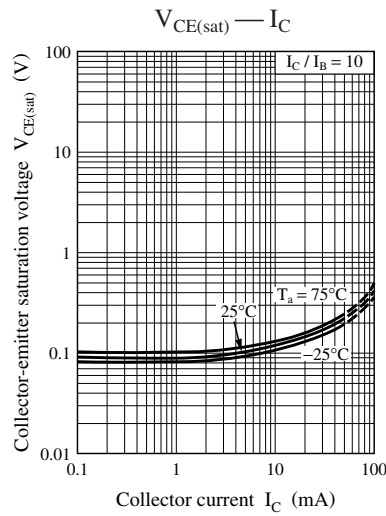
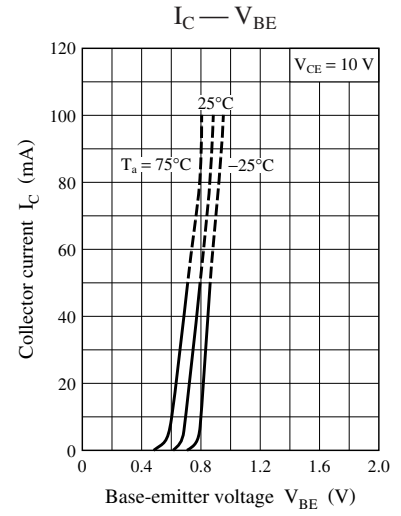
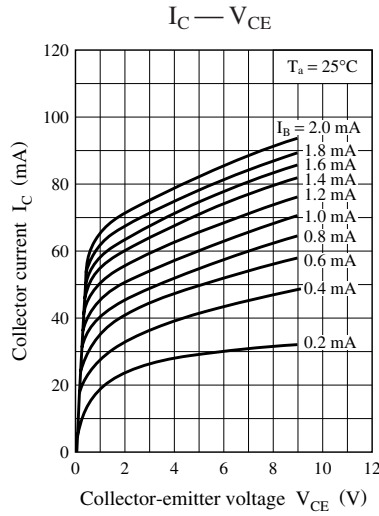
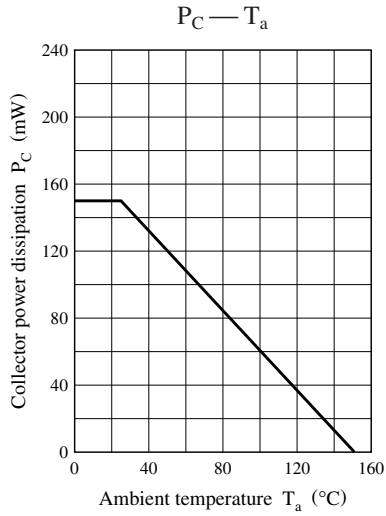
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 100 \mu\text{A}$, $I_B = 0$	185			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	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	$V_{CE(sat)}$	$I_C = 30 \text{mA}$, $I_B = 3 \text{mA}$			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 (Common base, input open circuited)	C_{ob}	$V_{CB} = 10 \text{V}$, $I_E = 0$, $f = 1 \text{MHz}$		2.3		pF
Noise voltage	NV	$V_{CE} = 10 \text{V}$, $I_C = 1 \text{mA}$, $G_V = 80 \text{dB}$ $R_g = 100 \text{k}\Omega$, Function = FLAT		150		mV

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

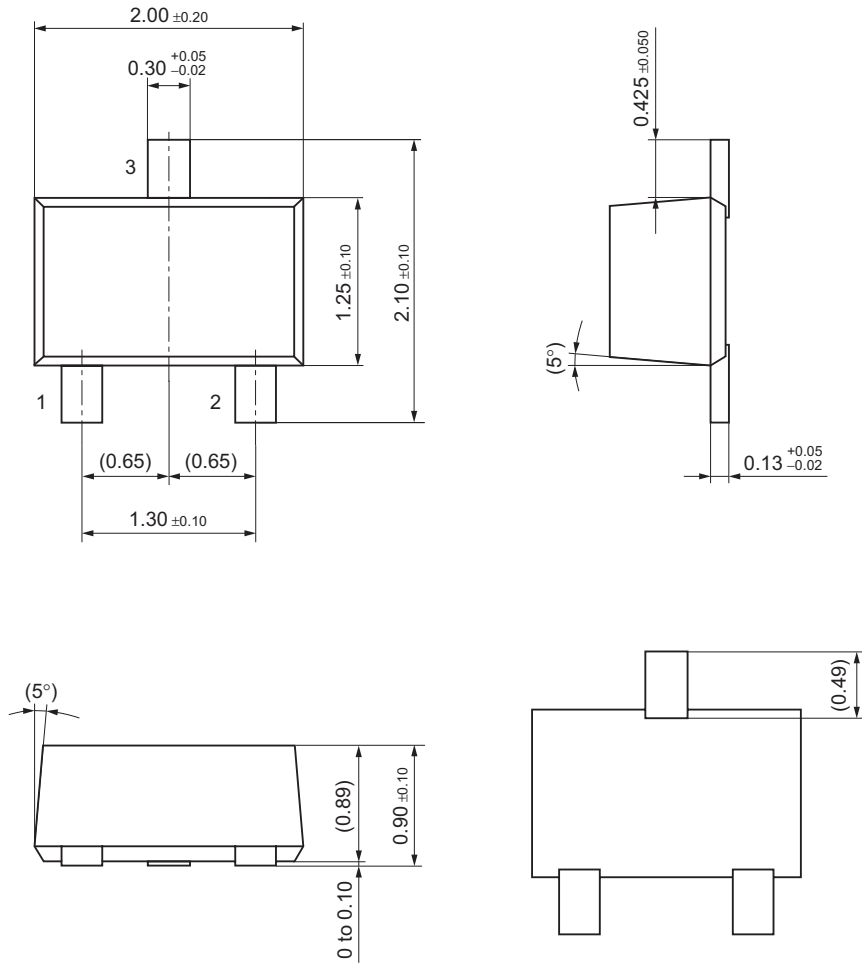
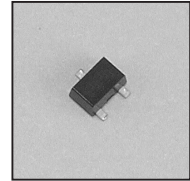
2. *: Rank classification

Rank	Q	R
h_{FE}	130 to 220	185 to 330



SMini3-F2

Unit: mm



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