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# 2SC5946

## Silicon NPN epitaxial planar type

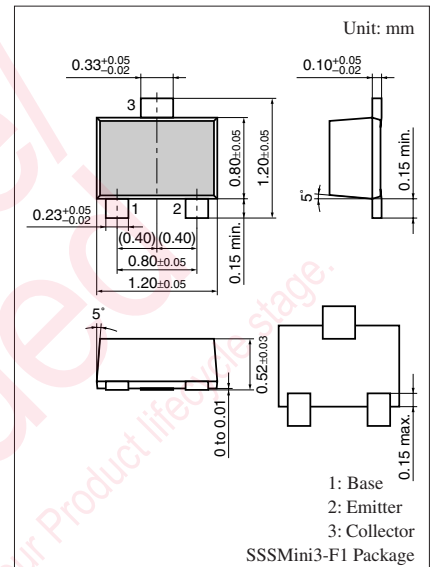
For high-frequency amplification/oscillation/mixing

### ■ Features

- High transition frequency  $f_T$
- SSS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	30	V
Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
Emitter-base voltage (Collector open)	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$



Marking Symbol: 9N

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 100 \mu\text{A}$ , $I_E = 0$	30			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}$ , $I_C = 0$	3			V
Base-emitter voltage	$V_{BE}$	$V_{CB} = 10 \text{V}$ , $I_E = -2 \text{mA}$		720		mV
Forward current transfer ratio	$h_{FE}$	$V_{CB} = 10 \text{V}$ , $I_E = -2 \text{mA}$	25		250	—
Transition frequency *	$f_T$	$V_{CB} = 10 \text{V}$ , $I_E = -15 \text{mA}$ , $f = 200 \text{MHz}$	800		1600	MHz
Reverse transfer capacitance (Common base)	$C_{rb}$	$V_{CE} = 6 \text{V}$ , $I_C = 0$ , $f = 1 \text{MHz}$		0.8		pF
Reverse transfer capacitance (Common emitter)	$C_{re}$	$V_{CB} = 10 \text{V}$ , $I_E = -1 \text{mA}$ , $f = 10.7 \text{MHz}$		1.0	1.5	pF
Power gain	PG	$V_{CB} = 10 \text{V}$ , $I_E = -1 \text{mA}$ , $f = 200 \text{MHz}$		20		dB

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

2. \*: Pulse measurement

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