2SC5946G

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.

■ Package

- Code
  SSSMini3-F2
- Marking Symbol: 9N
- Pin Name
  1: Base
  2: Emitter
  3: Collector

■ Absolute Maximum Ratings $T_a = 25°C$

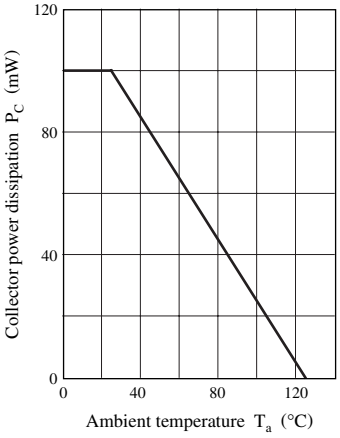
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	30	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}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

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

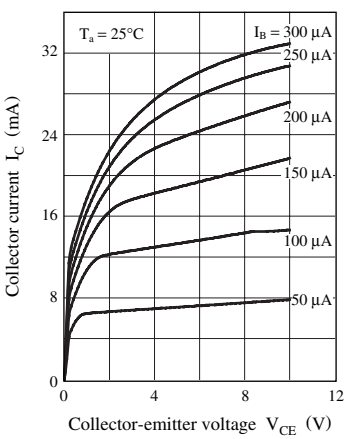
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	I_C = 100 µA, I_E = 0	30			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 µA, I_C = 0	3			V
Base-emitter voltage	V_{BE}	V_{CB} = 10 V, I_E = −2 mA		720		mV
Forward current transfer ratio	h_{FE}	V_{CB} = 10 V, I_E = −2 mA	25		250	—
Transition frequency *	f_T	V_{CB} = 10 V, I_E = −15 mA, f = 200 MHz	800		1 600	MHz
Reverse transfer capacitance (Common base)	C_{rb}	V_{CE} = 6 V, I_C = 0, f = 1 MHz		0.8		pF
Reverse transfer capacitance (Common emitter)	C_{re}	V_{CB} = 10 V, I_E = −1 mA, f = 10.7 MHz		1.0	1.5	pF
Power gain	PG	V_{CB} = 10 V, I_E = −1 mA, f = 200 MHz		20		dB

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗: Pulse measurement

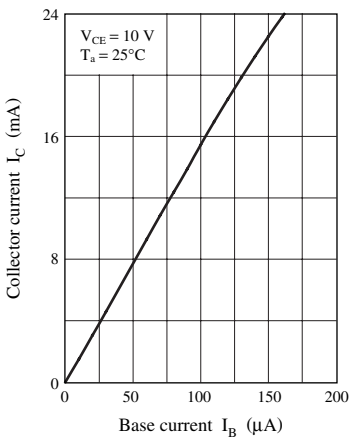
P_C — T_a



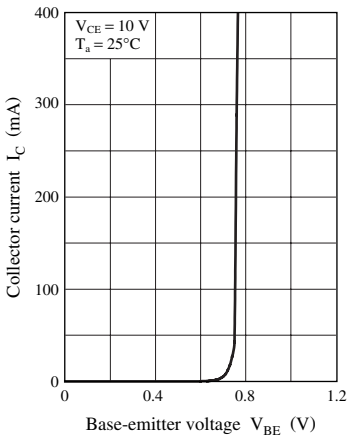
I_C — V_{CE}



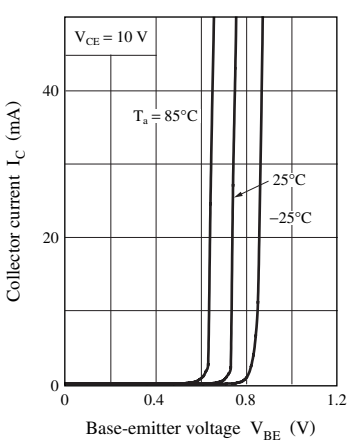
I_C — I_B



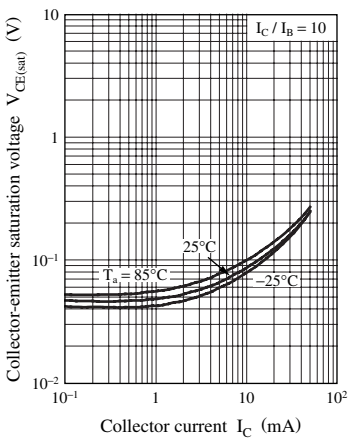
I_B — V_{BE}



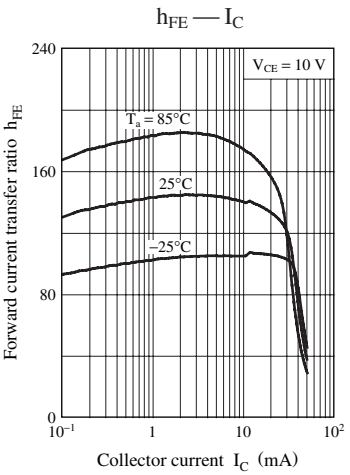
I_C — V_{BE}



$V_{CE(sat)}$ — I_C

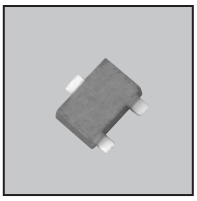


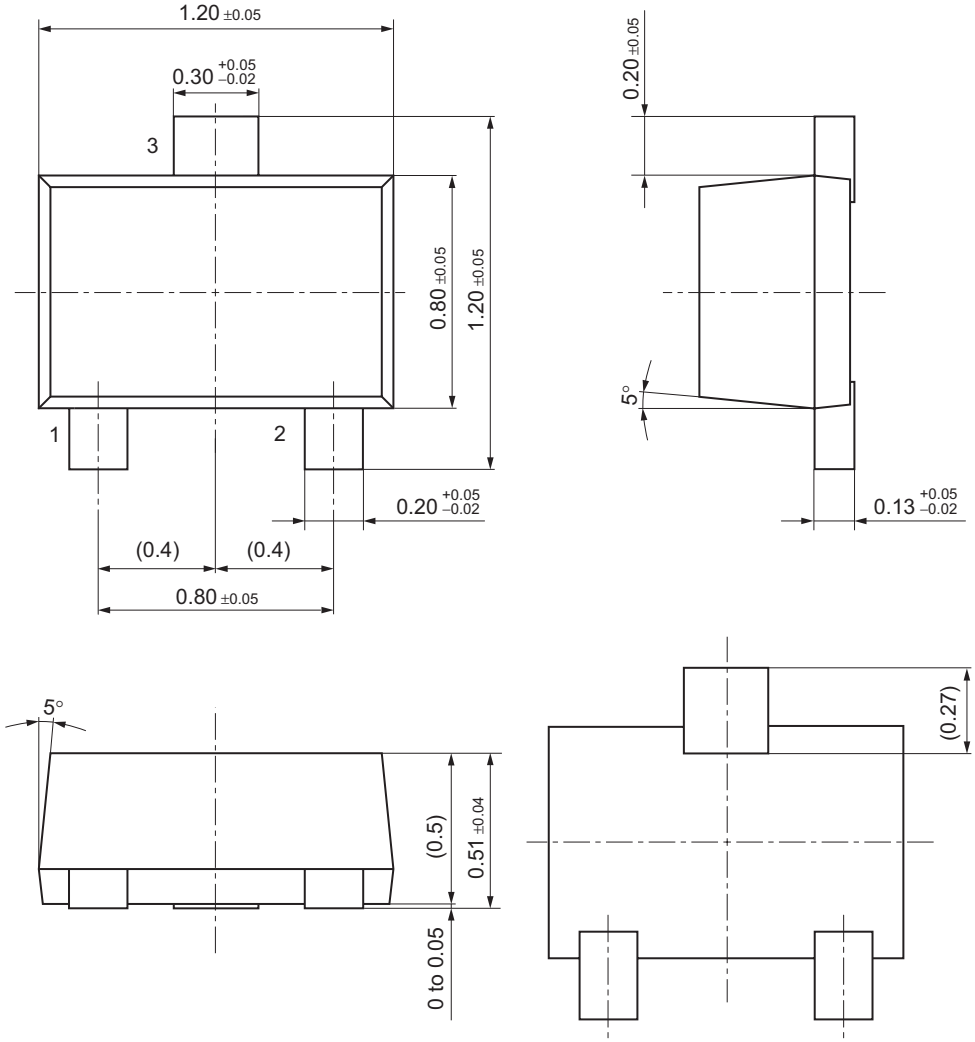
h_{FE} — I_C



SSSMini3-F2

Unit: mm





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