

DSC5G02

Silicon NPN epitaxial planar type

For high-frequency amplification
DSC2G02 in SMini3 type package

■ Features

- High transition frequency f_T
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: C5

■ Packaging

DSC5G02×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

■ 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	15	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Operating ambient temperature	T_{opr}	-40 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

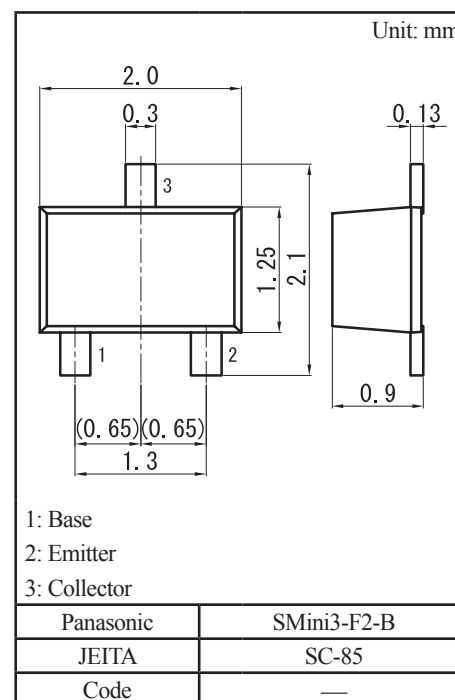
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu\text{A}$, $I_E = 0$	30			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu\text{A}$, $I_C = 0$	3			V
Base-emitter voltage	V_{BE}	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$		0.72		V
Forward current transfer ratio *1	h_{FE}	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$	65		260	—
Transition frequency	f_T	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$	450	650		MHz
Reverse transfer capacitance (Common emitter)	C_{re}	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$, $f = 10.7\ \text{MHz}$		0.6		pF
Power gain	PG	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$, $f = 100\ \text{MHz}$		24		dB
Noise figure	NF	$V_{CE} = 6\ \text{V}$, $I_C = 1\ \text{mA}$, $f = 100\ \text{MHz}$		3.3		dB

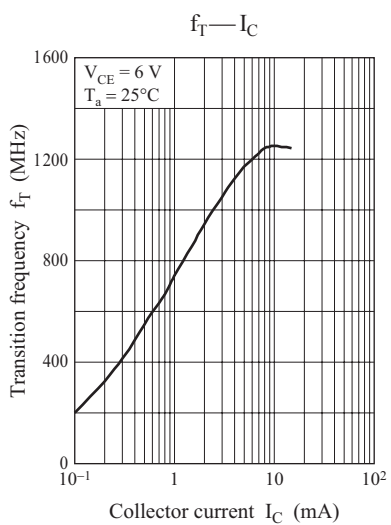
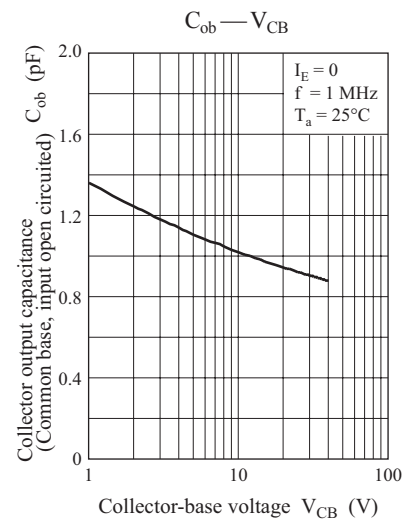
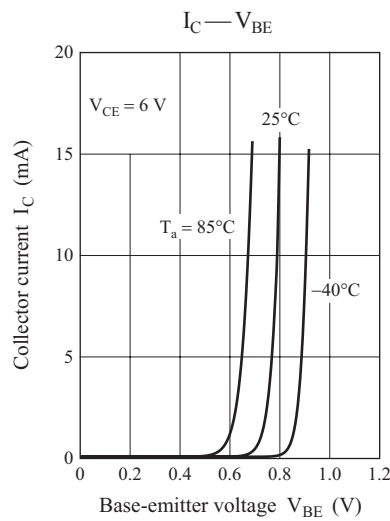
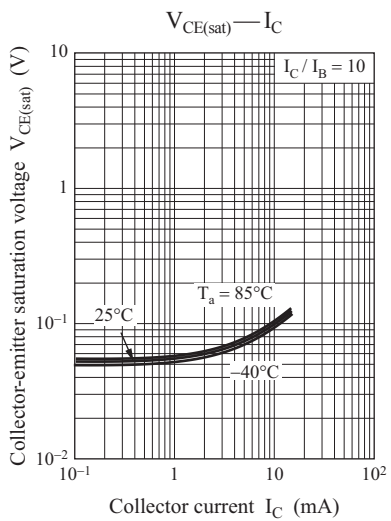
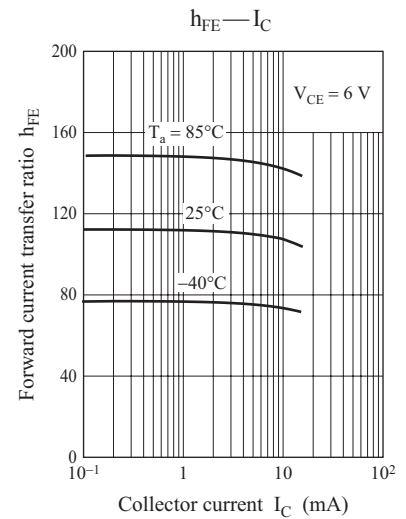
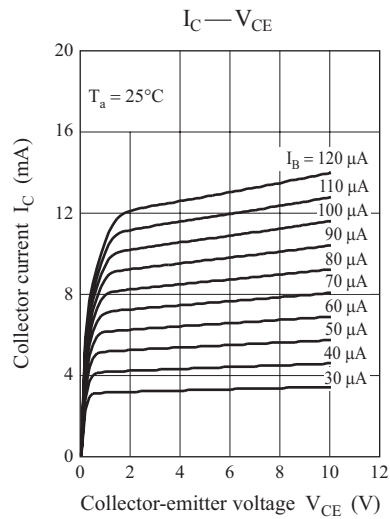
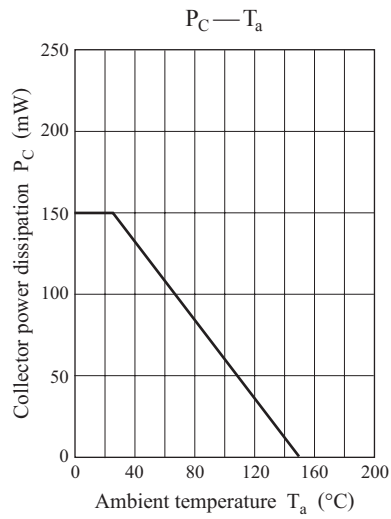
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *1: Rank classification

Code	C	D	0
Rank	C	D	No-rank
h_{FE}	65 to 160	100 to 260	65 to 260
Marking Symbol	C5C	C5D	C5

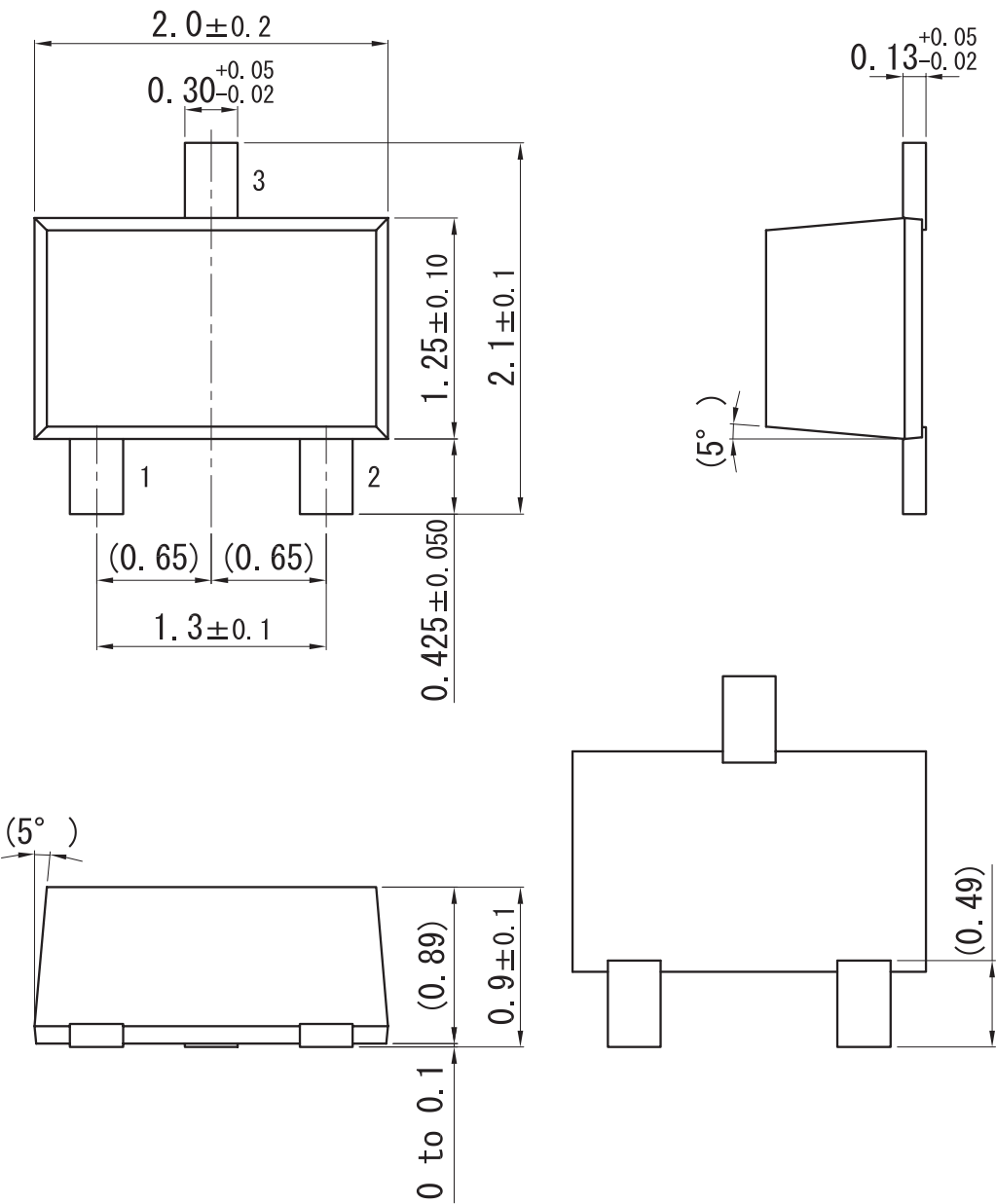
Product of no-rank is not classified and have no marking symbol for rank.



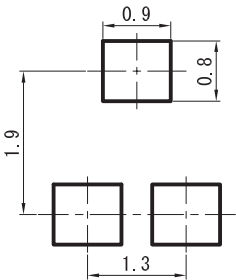


SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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