

# 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)	$V_{\text{CBO}}$	30	V
Collector-emitter voltage (Base open)	$V_{\text{CEO}}$	20	V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	3	V
Collector current	$I_{\text{C}}$	15	mA
Collector power dissipation	$P_{\text{C}}$	150	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Operating ambient temperature	$T_{\text{opr}}$	-40 to +85	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

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

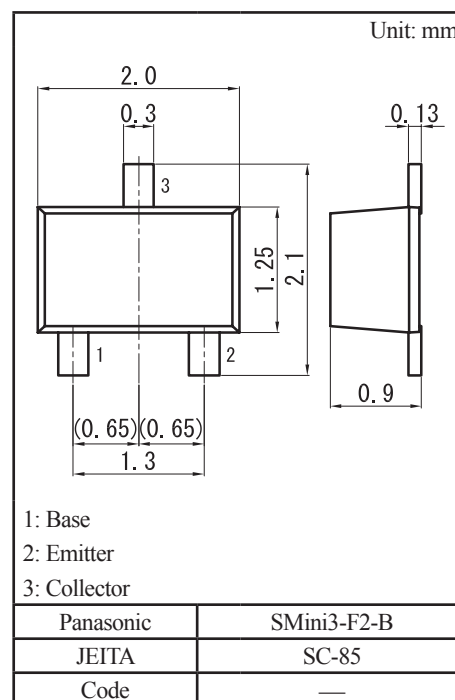
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{\text{CBO}}$	$I_{\text{C}} = 10 \mu\text{A}, I_{\text{E}} = 0$	30			V
Emitter-base voltage (Collector open)	$V_{\text{EBO}}$	$I_{\text{E}} = 10 \mu\text{A}, I_{\text{C}} = 0$	3			V
Base-emitter voltage	$V_{\text{BE}}$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

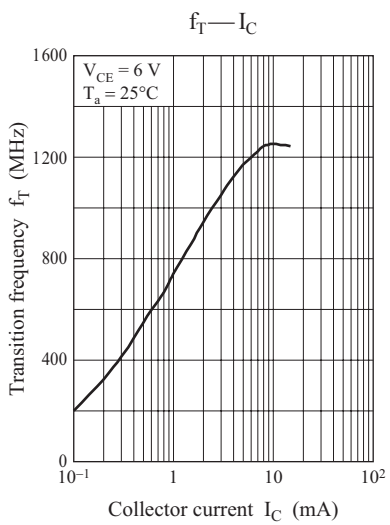
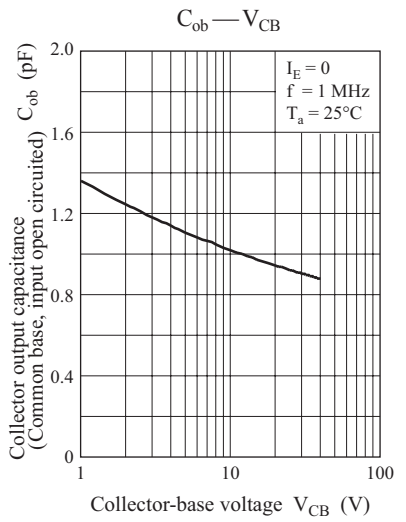
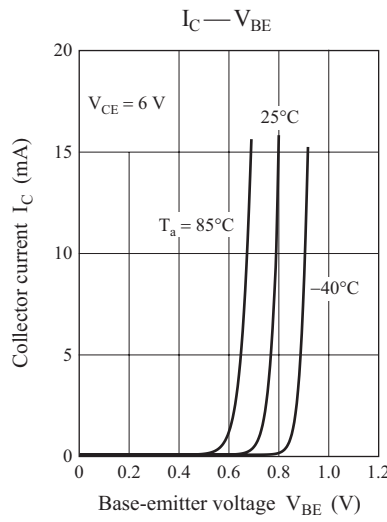
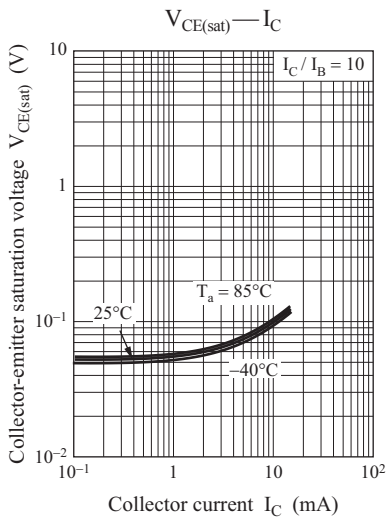
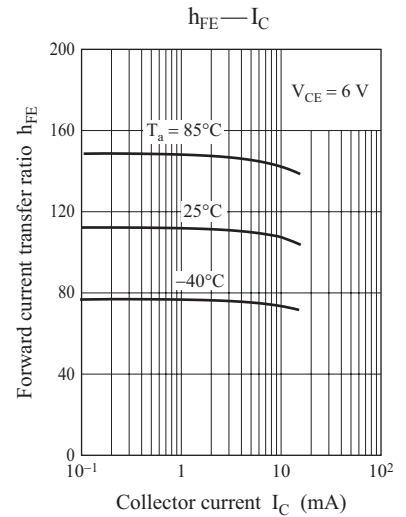
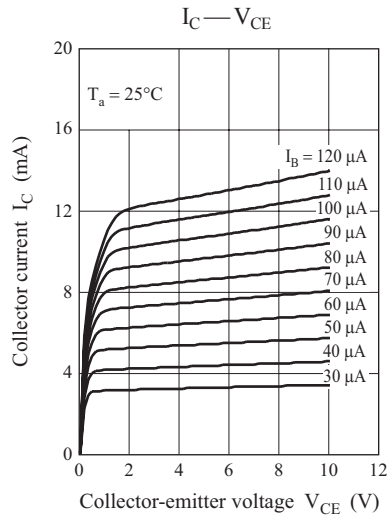
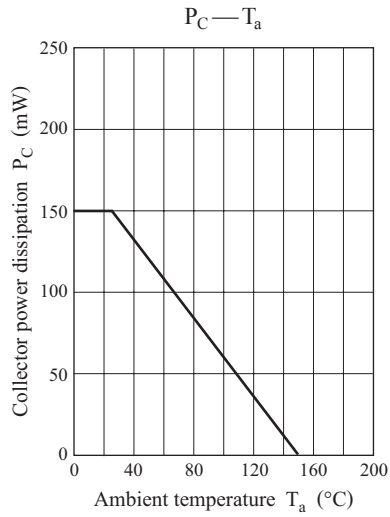
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*1: Rank classification

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

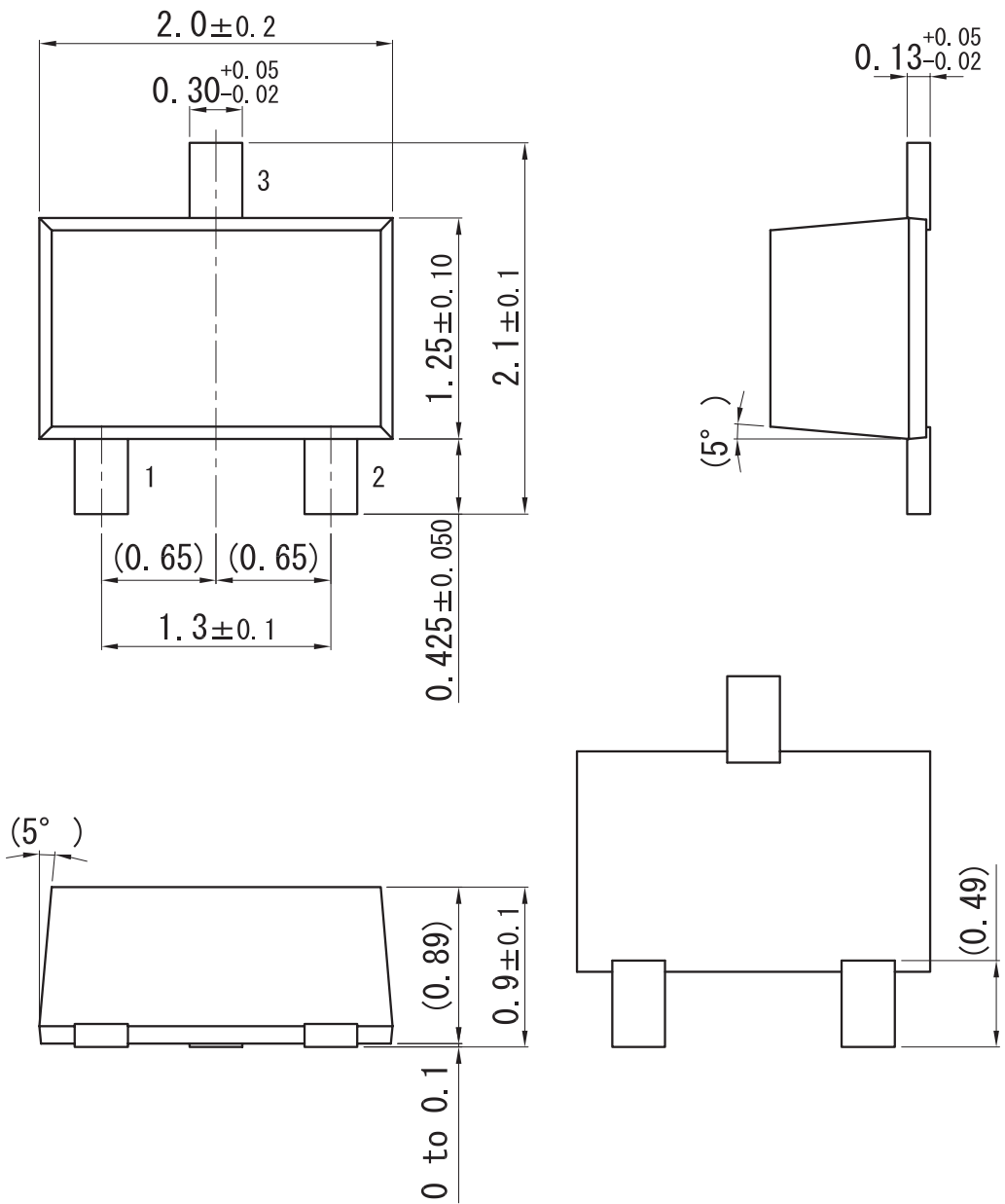
Product of no-rank is not classified and have no marking symbol for rank.



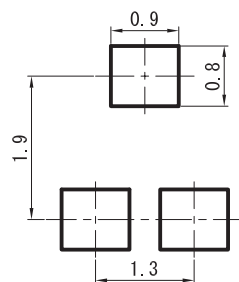


SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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