DSC5G02

Silicon NPN epitaxial planar type

For high-frequency amplification
DSC2G02 in SMini3 type package

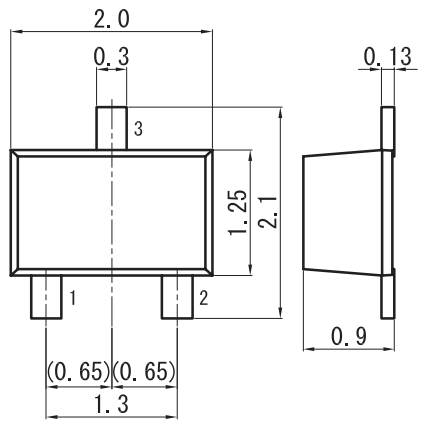
■ Features

- 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)



1: Base
2: Emitter
3: Collector

Panasonic	SMini3-F2-B
JEITA	SC-85
Code	—

■ 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	15	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Operating ambient temperature	T_{opr}	–40 to +85	°C
Storage temperature	T_{stg}	–55 to +150	°C

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

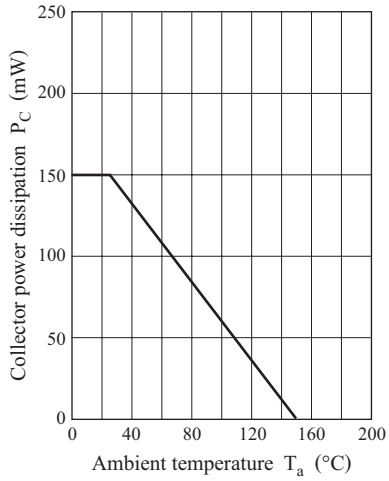
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	30			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	3			V
Base-emitter voltage	V_{BE}	$V_{CE} = 6$ V, $I_C = 1$ mA		0.72		V
Forward current transfer ratio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

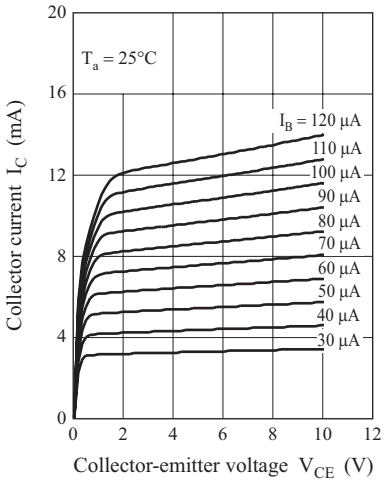
Code	C	D	0
Rank	C	D	No-rank
h_{FE}	65 to 160	100 to 260	65 to 260
Marking Symbol	C5C	C5D	C5

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

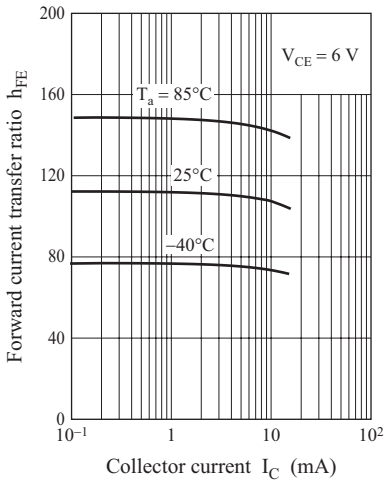
P_C — T_a



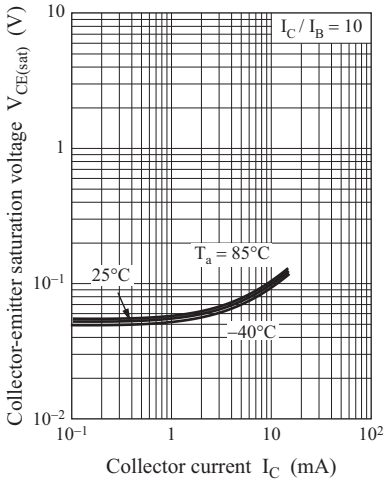
I_C — V_{CE}



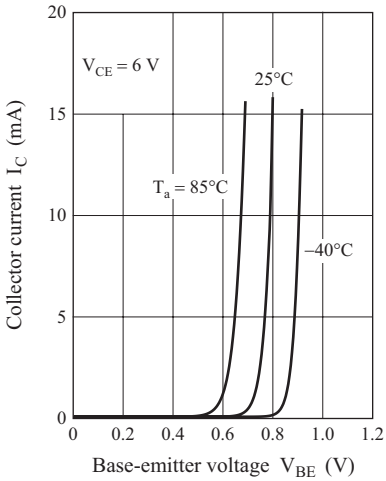
h_{FE} — I_C



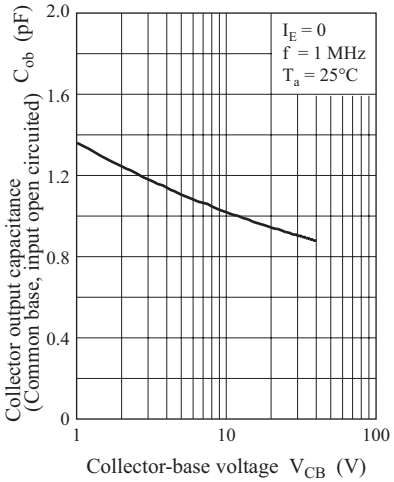
$V_{CE(sat)}$ — I_C



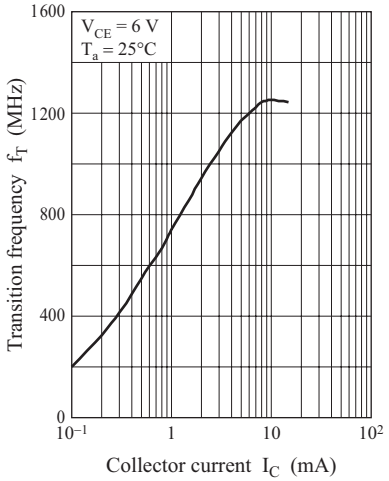
I_C — V_{BE}



C_{ob} — V_{CB}

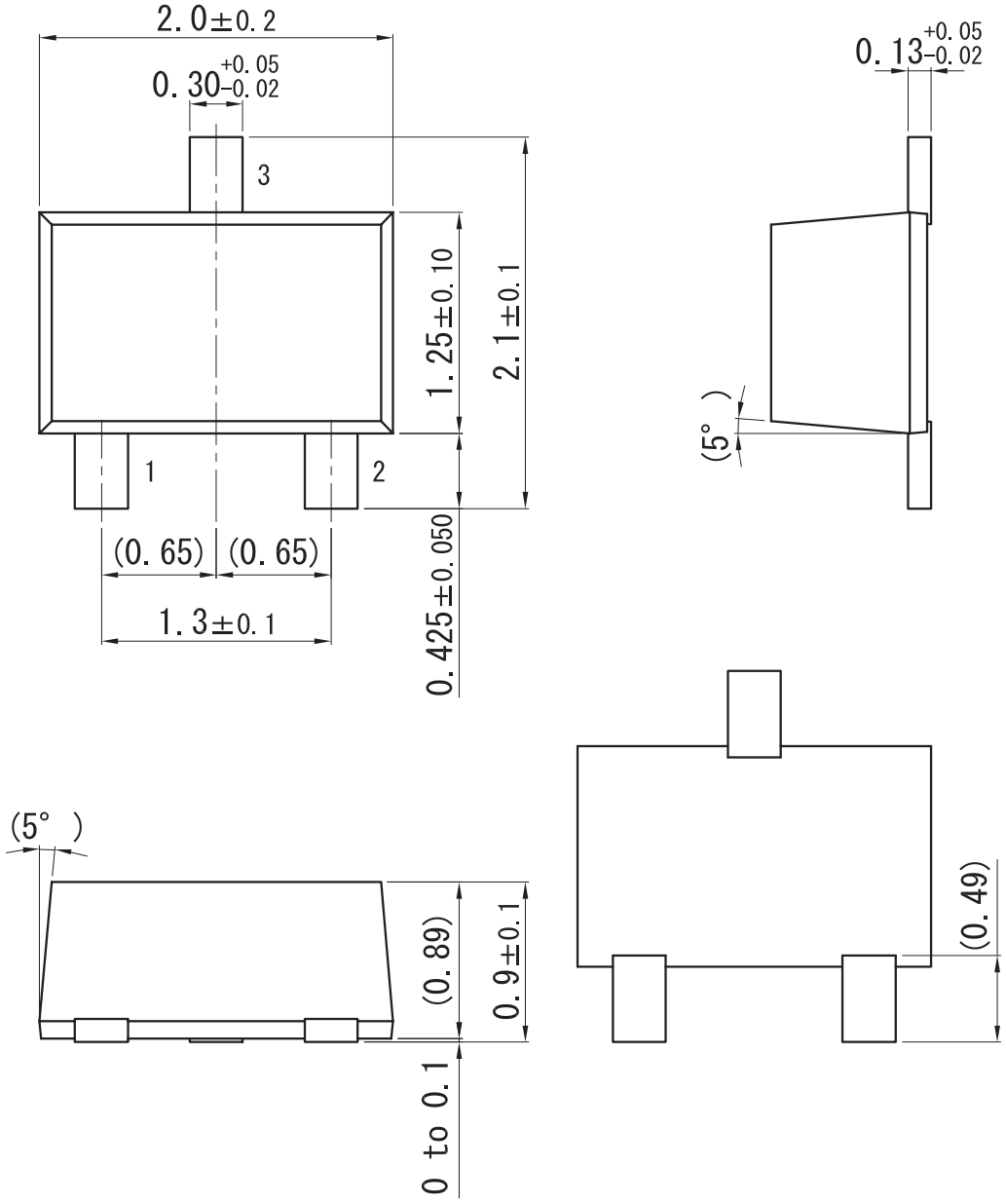


f_T — I_C

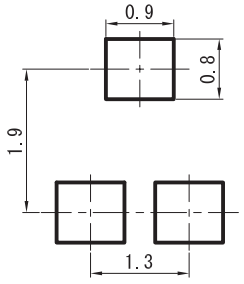


SMini3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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