

DSC7505

Silicon NPN epitaxial planar type

For low frequency amplification

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: 5G

■ Packaging

DSC7505×0L Embossed type (Thermo-compression sealing): 1 000 pcs / reel (standard)

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	40	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_C	3	A
Peak collector current	I_{CP}	5	A
Collector power dissipation *1	P_C	1	W
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	$^\circ\text{C}$

Note) *1: Printed circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion
Absolute maximum rating without heat sink for P_C is 0.5 W

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10 \text{ V}, I_E = 0$			0.1	μA
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	230		600	—
	h_{FE2}	$V_{CE} = 2 \text{ V}, I_C = 2 \text{ A}$	150			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 0.1 \text{ A}$			1.0	V
Transition frequency *1	f_T	$V_{CE} = 6 \text{ V}, I_C = 50 \text{ mA}$		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 20 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			50	pF

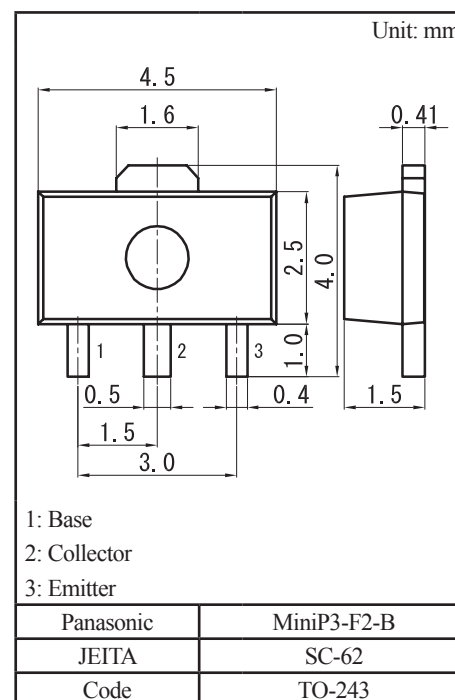
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

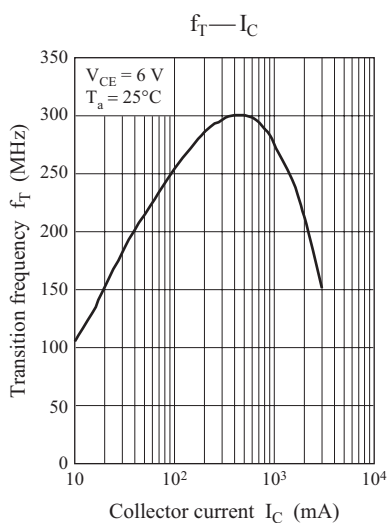
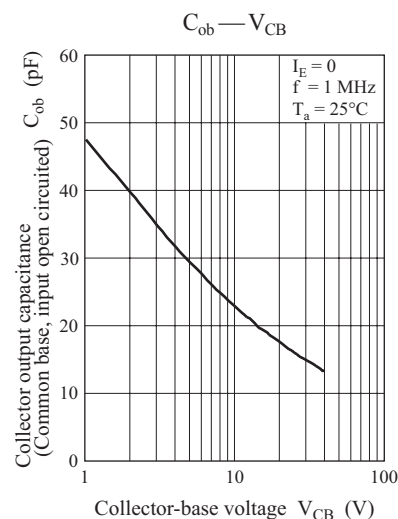
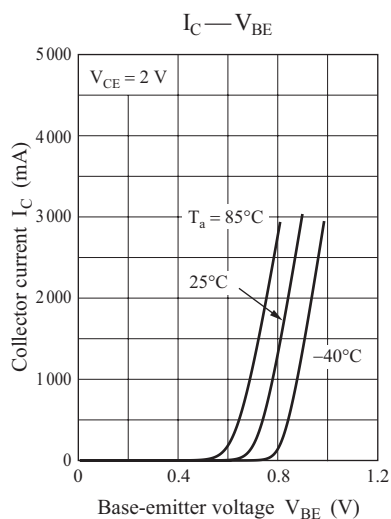
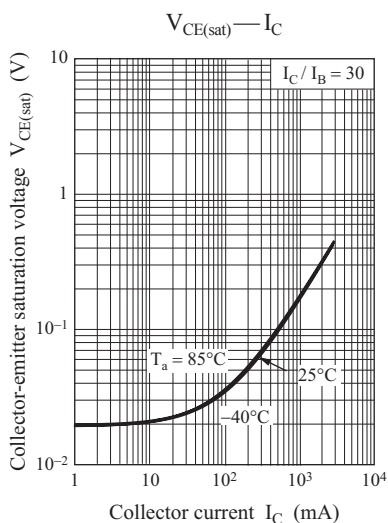
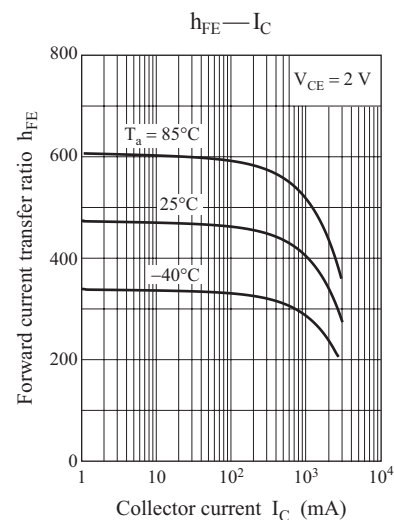
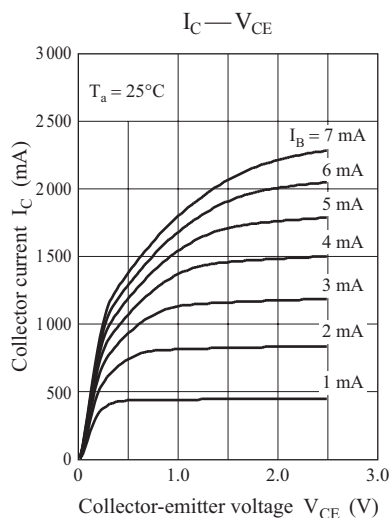
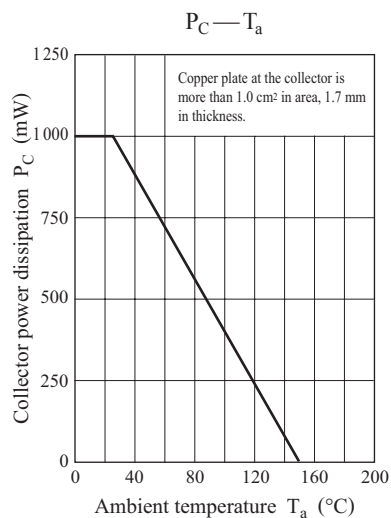
2. *1: Pulse measurement

*2: Rank classification

Code	Q	R	0
Rank	Q	R	No-rank
h_{FE1}	230 to 380	340 to 600	230 to 600
Marking Symbol	5GQ	5GR	5G

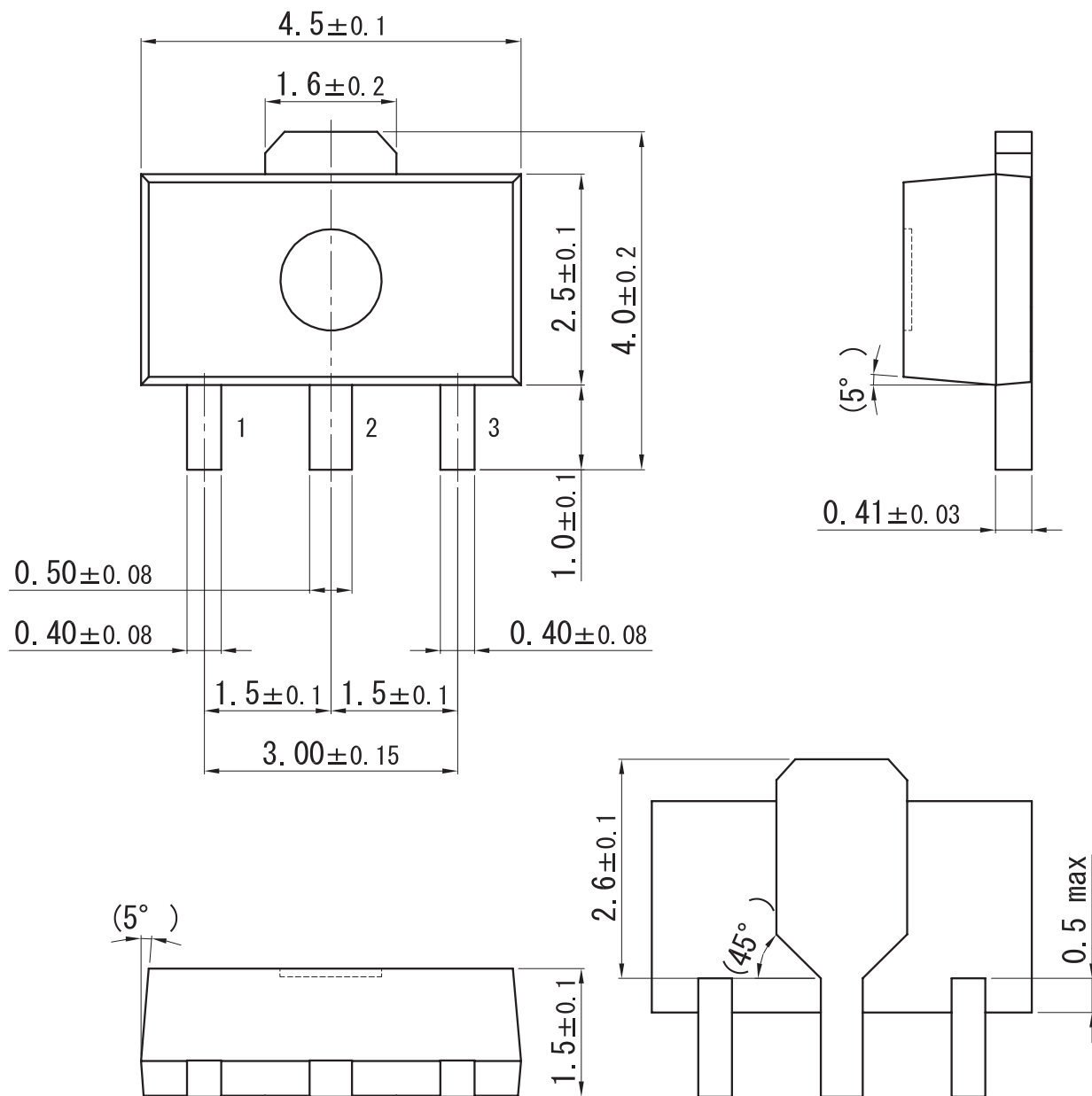
Product of no-rank is not classified and have no marking symbol for rank.



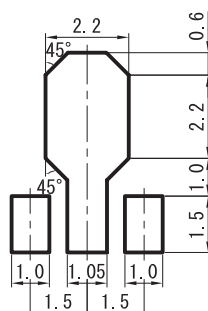


MiniP3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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