

DSA7004

Silicon PNP epitaxial planar type

For low frequency amplification
Complementary to DSC7004

■ 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: 4B

■ Packaging

DSA7004×0L 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}	-60	V
Collector-emitter voltage (Base open)	V_{CEO}	-50	V
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-2	A
Peak collector current	I_{CP}	-3	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-base voltage (Emitter open)	V_{CBO}	$I_C = -10 \mu\text{A}$, $I_E = 0$	-60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -1 \text{ mA}$, $I_B = 0$	-50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = -10 \mu\text{A}$, $I_C = 0$	-5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -20 \text{ V}$, $I_E = 0$			-0.1	μA
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = -2 \text{ V}$, $I_C = -200 \text{ mA}$	120		340	—
	h_{FE2}	$V_{CE} = -2 \text{ V}$, $I_C = -1 \text{ A}$	60			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = -1 \text{ A}$, $I_B = -50 \text{ mA}$		-0.2	-0.3	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = -1 \text{ A}$, $I_B = -50 \text{ mA}$		-0.9	-1.2	V
Transition frequency	f_T	$V_{CE} = -10 \text{ V}$, $I_C = -50 \text{ mA}$		130		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		33	60	pF

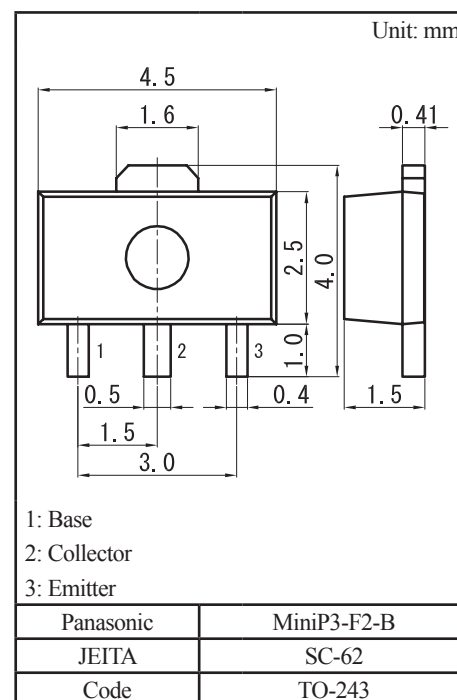
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

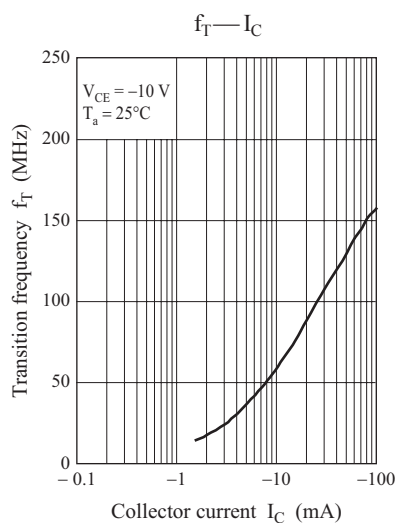
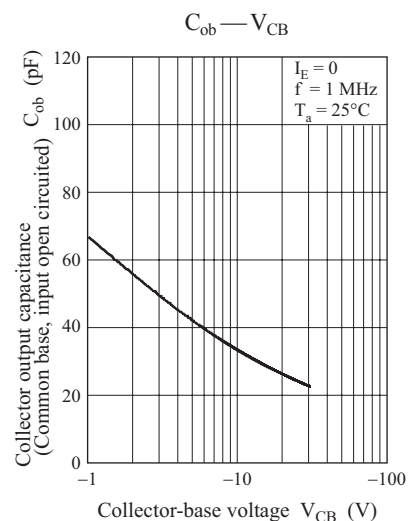
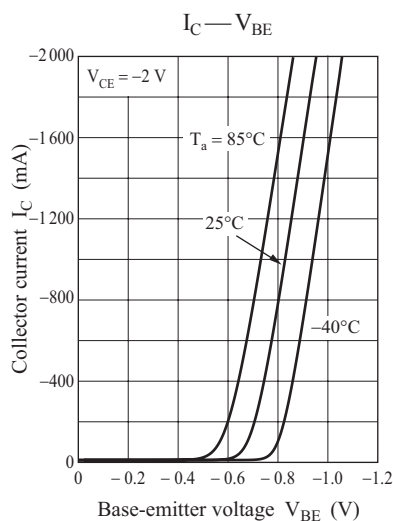
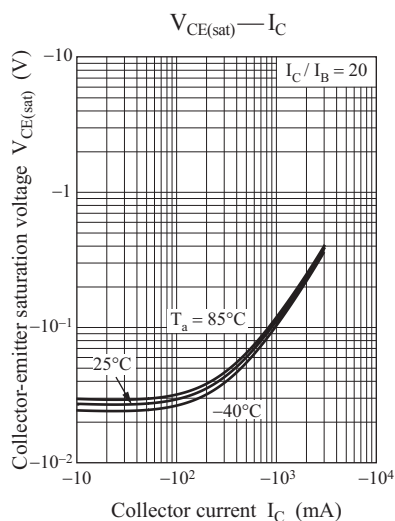
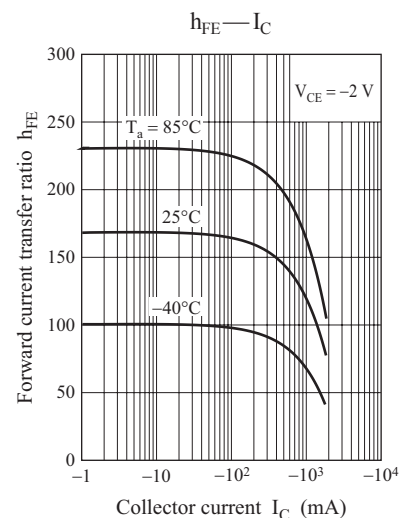
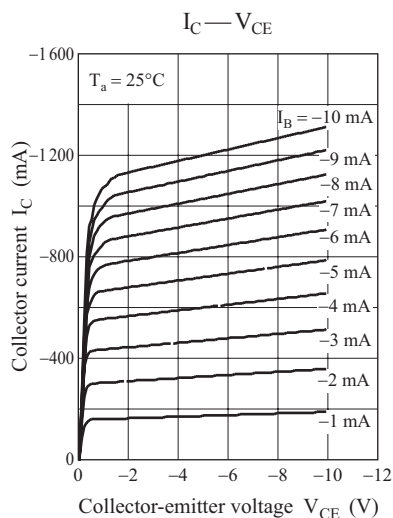
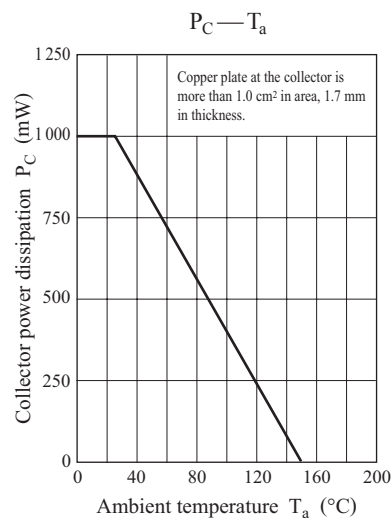
2. *1: Pulse measurement

*2: Rank classification

Code	R	S	0
Rank	R	S	No-rank
h_{FE1}	120 to 240	170 to 340	120 to 340
Marking Symbol	4BR	4BS	4B

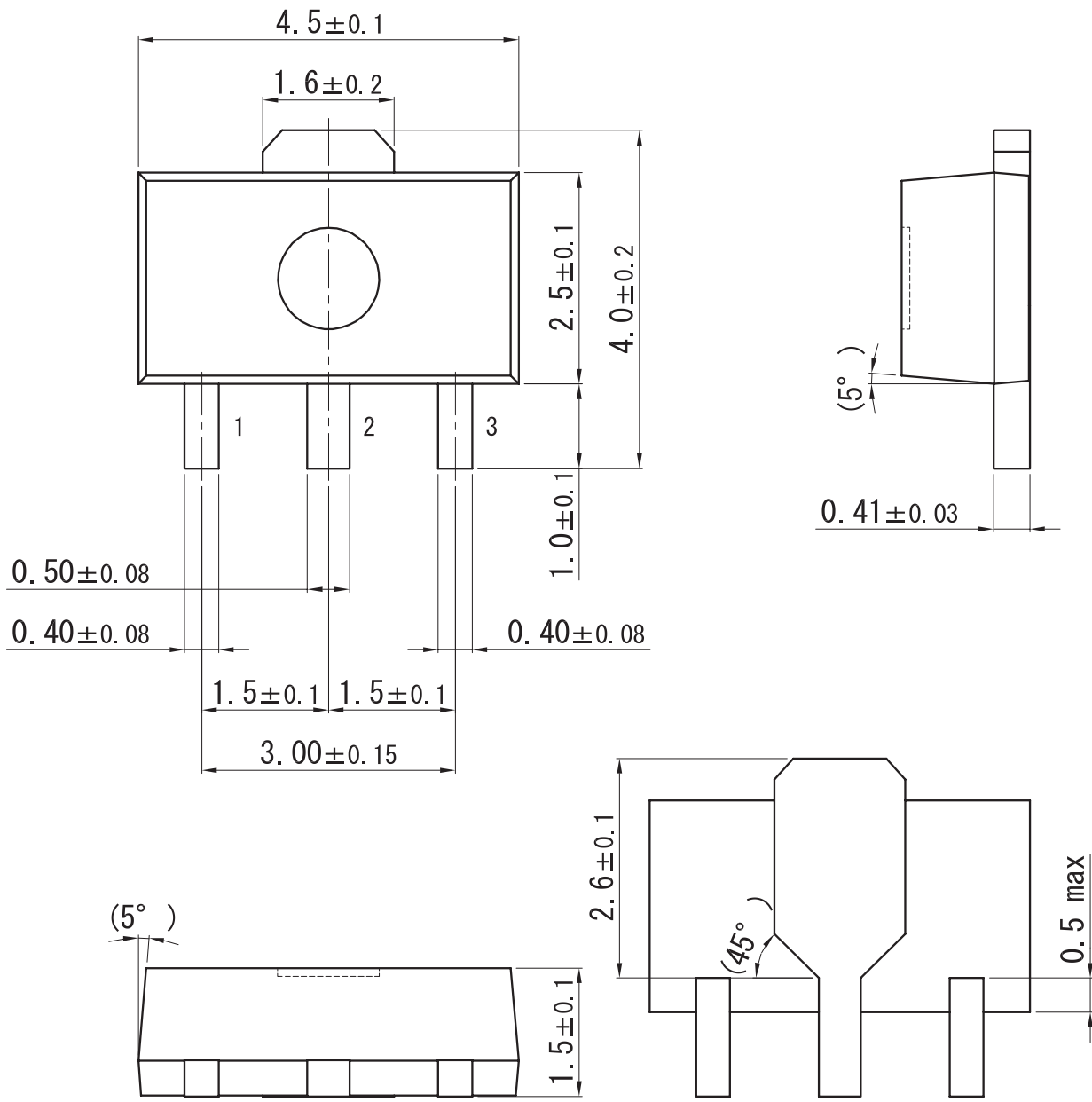
Product of no-rank is not classified and have no marking symbol for rank.



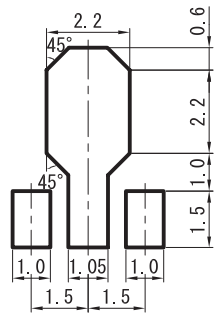


MiniP3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

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