

DSA7003

Silicon PNP epitaxial planar type

For low frequency amplification
Complementary to DSC7003

■ 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: 4A

■ Packaging

DSA7003x0L Embossed type (Thermo-compression sealing): 1000 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	-1	A
Peak collector current	I_{CP}	-1.5	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 cm^2 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}	$I_C = -2 \text{ mA}, I_B = 0$	-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}	$V_{CE} = -10 \text{ V}, I_C = -500 \text{ mA}$	120		340	—
	h_{FE2}	$V_{CE} = -5 \text{ V}, I_C = -1 \text{ A}$	50			—
Collector-emitter saturation voltage ^{*1}	$V_{CE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$			-0.4	V
Base-emitter saturation voltage ^{*1}	$V_{BE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$			-1.2	V
Transition frequency	f_T	$V_{CE} = -10 \text{ V}, I_C = -50 \text{ mA}$		120		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		14.5	30	pF

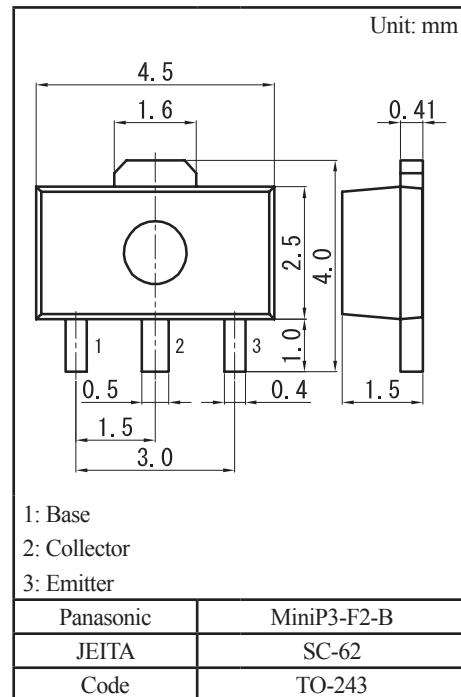
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

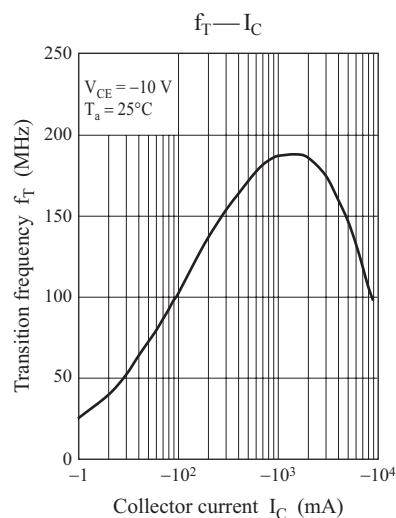
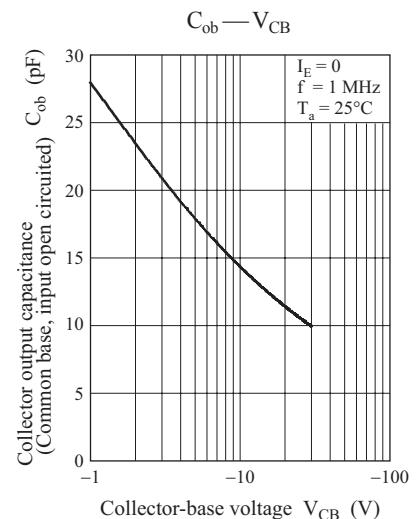
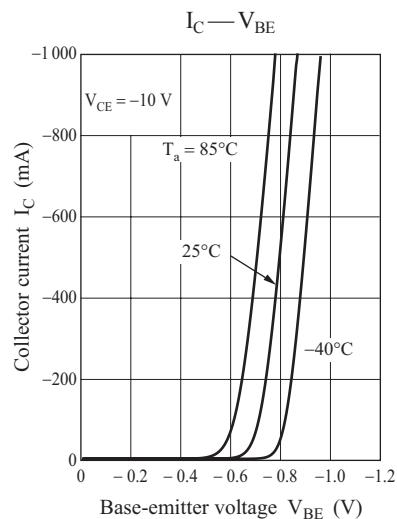
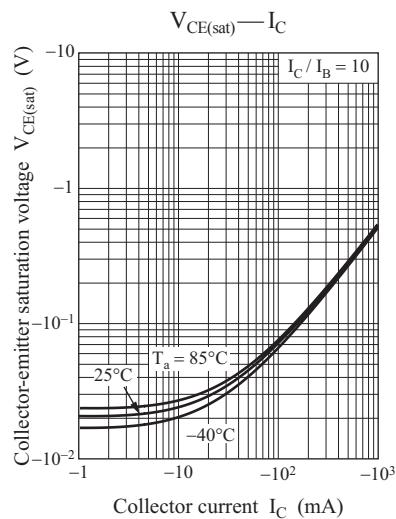
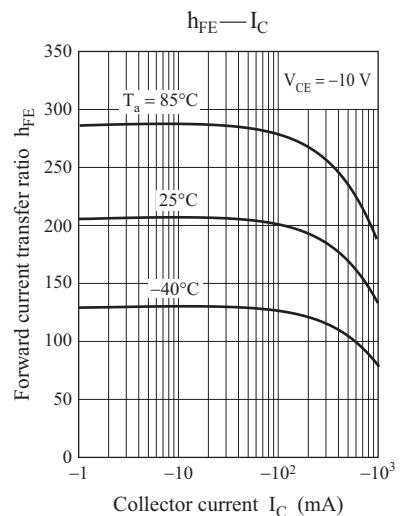
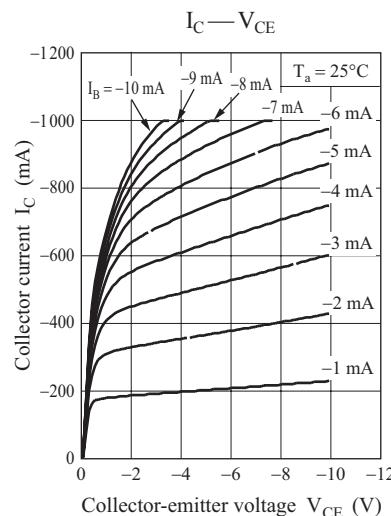
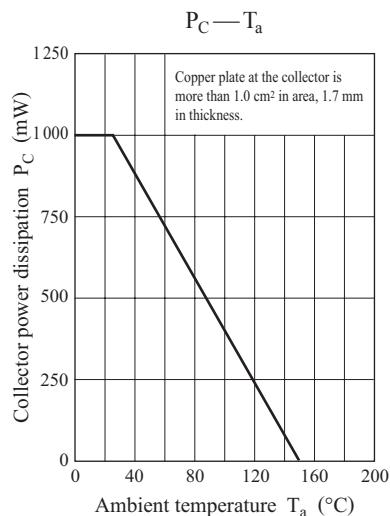
2. *1: Pulse measurement

*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	4AR	4AS	4A

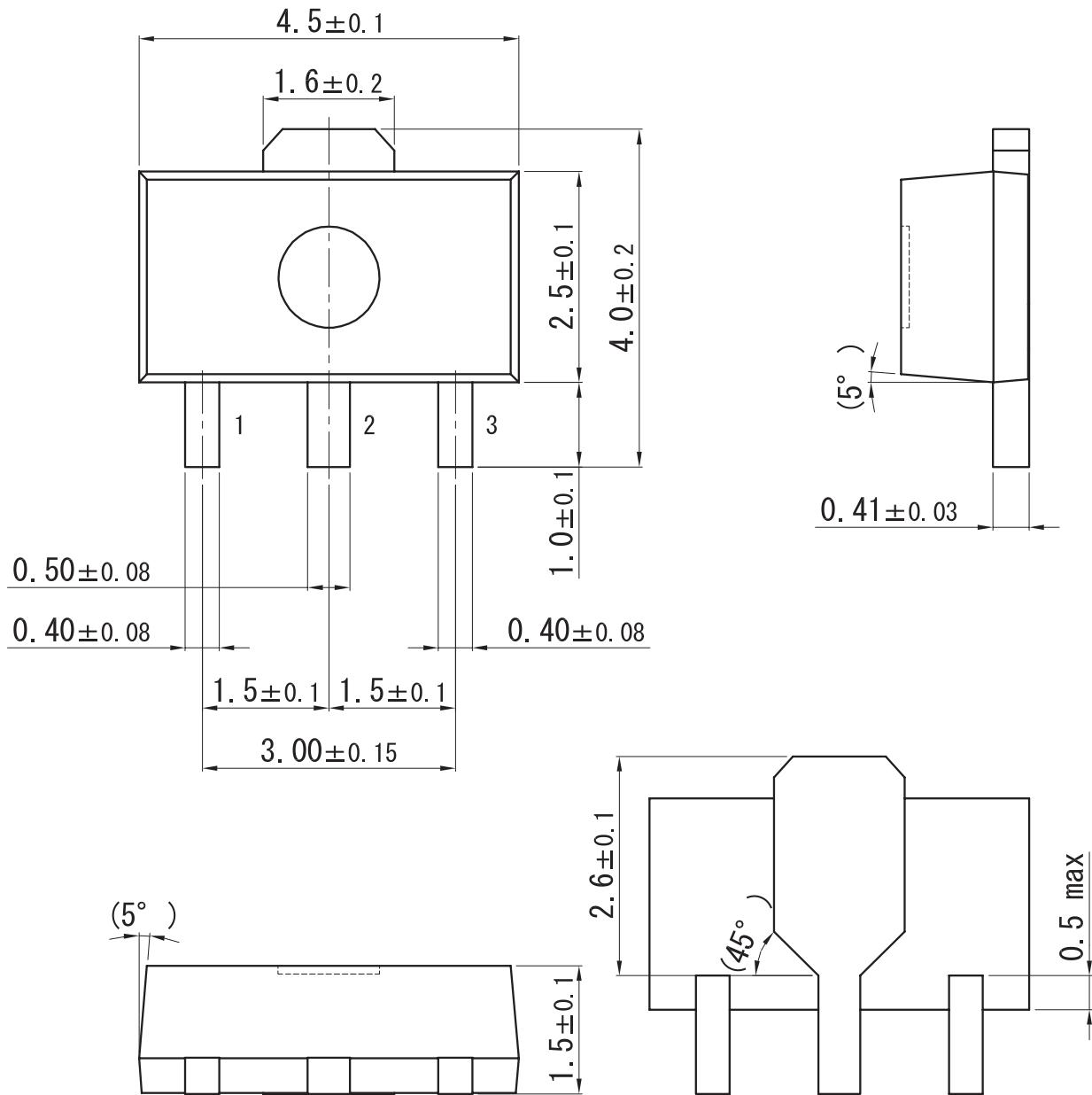
Product of no-rank is not classified and have no marking symbol for rank.



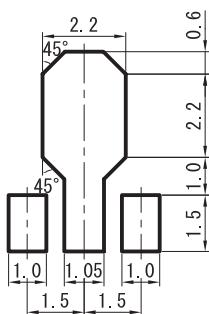


MiniP3-F2-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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