# **DSA7004**

# Silicon PNP epitaxial planar type

For low frequency output amplification Complementary to DSC7004

## ■ Features

- $\bullet$  Low collector-emitter saturation voltage  $V_{\text{CE(sat)}}$
- Eco-friendly Halogen-free package

### Packaging

Embossed type (Thermo-compression sealing): 1000 pcs / reel (standard)

# ■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	-60	V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	-50	V
Emitter-base voltage (Collector open)	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-2	A
Peak collector current	$I_{CP}$	-3	A
Collector power dissipation *	P <sub>C</sub>	1	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

Note) \*: 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 $T_a = 25$ °C±3°C

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	V <sub>CBO</sub>	$I_{\rm C} = -10 \mu\text{A}, I_{\rm E} = 0$	-60			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_{\rm C} = -1 \text{ mA}, I_{\rm B} = 0$	-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)	$I_{CBO}$	$V_{\rm CB} = -20 \text{ V}, I_{\rm E} = 0$			-0.1	μΑ
Forward current transfer ratio *1	h <sub>FE1</sub> *2	$V_{CE} = -2 \text{ V}, I_{C} = -200 \text{ mA}$	120		340	
	h <sub>FE2</sub>	$V_{CE} = -2 \text{ V}, I_{C} = -1 \text{ A}$	60			_
Collector-emitter saturation voltage *1	V <sub>CE(sat)</sub>	$I_C = -1 \text{ A}, I_B = -50 \text{ mA}$		-0.2	-0.3	V
Base-emitter saturation voltage *1	V <sub>BE(sat)</sub>	$I_C = -1 \text{ A}, I_B = -50 \text{ mA}$		- 0.9	-1.2	V
Transition frequency	$f_T$	$V_{CE} = -10 \text{ V}, I_{C} = -50 \text{ mA}$		120		MHz
Collector output capacitance (Common base, input open circuited)	C <sub>ob</sub>	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		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	
$h_{\mathrm{FE1}}$	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.

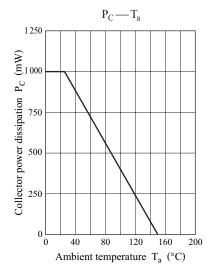
#### ■ Package

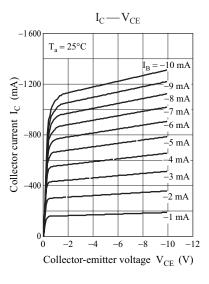
Code

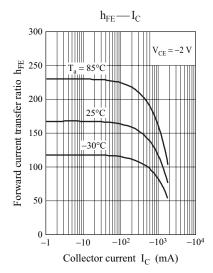
MiniP3-F2-B

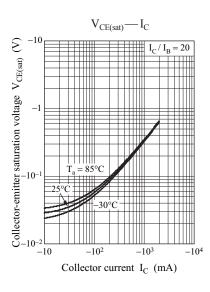
- Pin Name
  - 1. Base
  - 2. Collector
  - 3. Emitter
- Marking Symbol: 4B

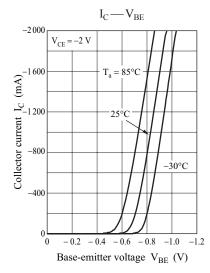
DSA7004 Panasonic

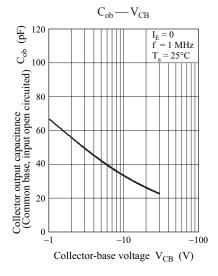


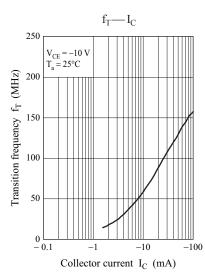








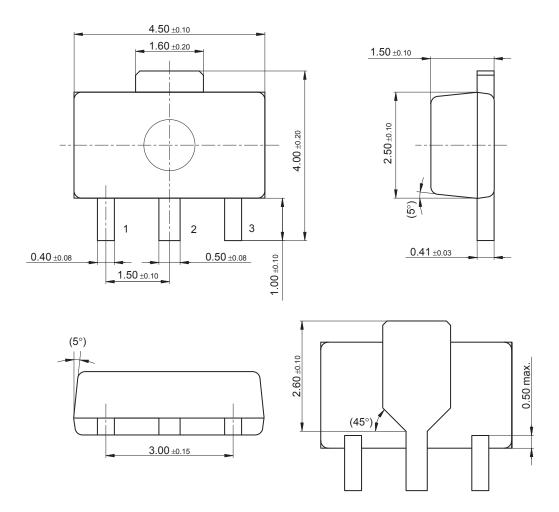




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MiniP3-F2-B

Unit: mm



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