## **DSC5001**

### Silicon NPN epitaxial planar type

For general amplification Complementary to DSA5001 DSC2001 in SMini3 type package

#### ■ Features

- $\bullet$  High forward current transfer ratio  $h_{\text{FE}}$  with excellent linearity
- ullet Low collector-emitter saturation voltage  $V_{CE(sat)}$
- Halogen-free / RoHS compliant
   (EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

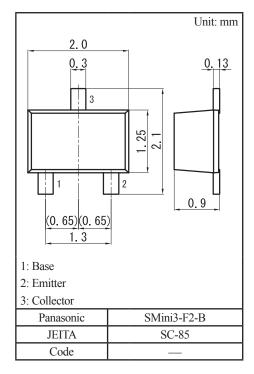
■ Marking Symbol: C1

#### Packaging

DSC5001×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

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

Parameter	Symbol	Symbol Rating	
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>	7	V
Collector current	$I_{\rm C}$	100	mA
Peak collector current	$I_{CP}$	200	mA
Collector power dissipation	P <sub>C</sub>	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Operating ambient temperature	T <sub>opr</sub>	-40 to +85	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C



### ■ Electrical Characteristics $T_a = 25$ °C±3°C

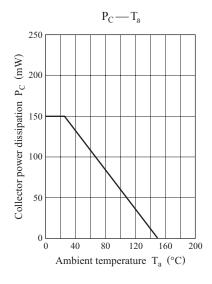
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu A, I_E = 0$	60			V
Collector-emitter voltage (Base open)	V <sub>CEO</sub>	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Emitter-base voltage (Collector open)	$V_{\rm EBO}$	$I_E = 10 \mu A, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 20 \text{ V}, I_{E} = 0$			0.1	μΑ
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 10 \text{ V}, I_{B} = 0$			100	μΑ
Forward current transfer ratio *1	$h_{FE}$	$V_{CE} = 10 \text{ V}, I_{C} = 2 \text{ mA}$	210		460	_
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.13	0.3	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_{C} = 2 \text{ mA}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C <sub>ob</sub>	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		1.5		pF

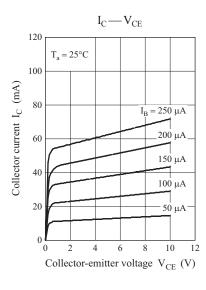
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

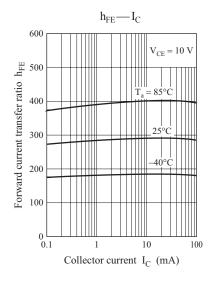
#### 2. \*1: Rank classification

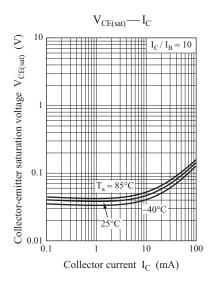
Code	R	S	0	
Rank	R	S	No-rank	
$h_{\mathrm{FE}}$	210 to 340	290 to 460	210 to 460	
Marking Symbol	C1R	C1S	C1	

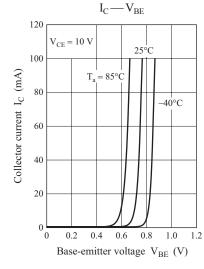
Product of no-rank is not classified and have no marking symbol for rank.

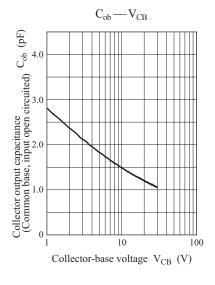


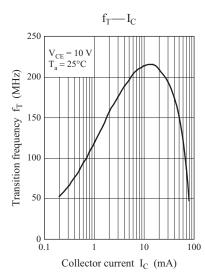








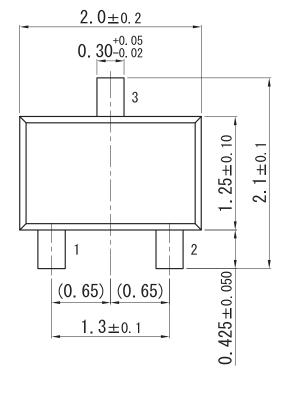


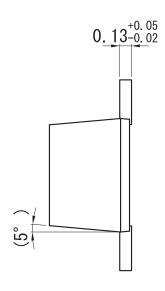


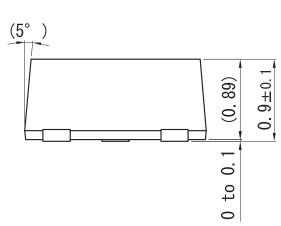
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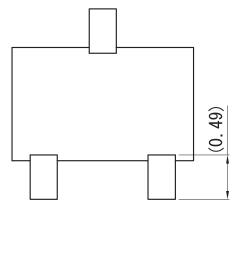
## SMini3-F2-B

Unit: mm

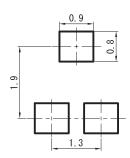








### ■ Land Pattern (Reference) (Unit: mm)



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