DSC5002

Silicon NPN epitaxial planar type

For general amplification Complementary to DSA5002 DSC2002 in SMini3 type package

■ Features

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

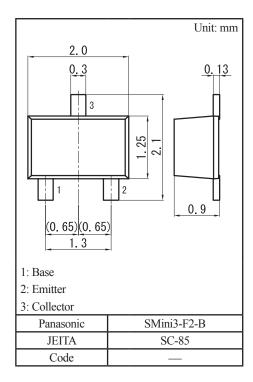
■ Marking Symbol: C2

Packaging

DSC5002×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25$ °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}	500	mA
Peak collector current	I _{CP}	1	A
Collector power dissipation	P _C	150	mW
Junction temperature	T _j	150	°C
Operating ambient temperature	T _{opr}	-40 to +85	°C
Storage temperature	T _{stg}	-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}	$I_{\rm C} = 10 \ \mu A, I_{\rm E} = 0$	60			V	
Collector-emitter voltage (Base open)	V _{CEO}	$I_{\rm C} = 2 \text{ mA}, I_{\rm B} = 0$	50			V	
Emitter-base voltage (Collector open)	V _{EBO}	$I_E = 10 \ \mu A, I_C = 0$	5			V	
Collector-base cutoff current (Emitter open)	I _{CBO}	$V_{CB} = 20 \text{ V}, I_{E} = 0$			0.1	μΑ	
Forward current transfer ratio *1	h _{FE1} *2	$V_{CE} = 10 \text{ V}, I_{C} = 150 \text{ mA}$	120		340		
	h _{FE2}	$V_{CE} = 10 \text{ V}, I_{C} = 500 \text{ mA}$	40			_	
Collector-emitter saturation voltage *1	V _{CE(sat)}	$I_C = 300 \text{ mA}, I_B = 30 \text{ mA}$		0.1	0.6	V	
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_{C} = 50 \text{ mA}$		160		MHz	
Collector output capacitance (Common base, input open circuited)	C _{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		4.8	15	pF	

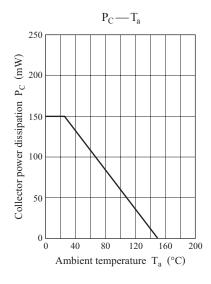
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

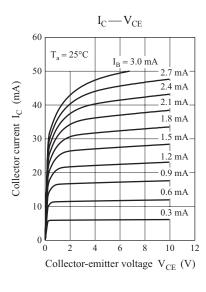
2. *1: Pulse measurement

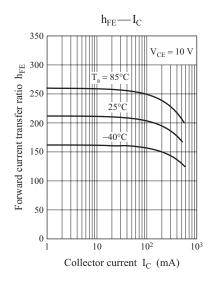
*2: Rank classification

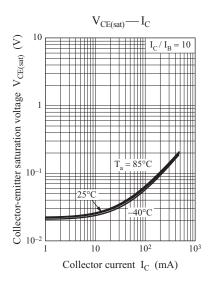
Code	R	S	0	
Rank	R	S	No-rank	
h_{FE1}	120 to 240	170 to 340	120 to 340	
Marking Symbol	C2R	C2S	C2	

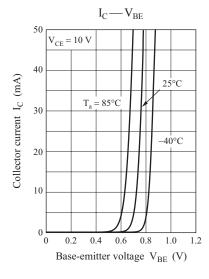
Product of no-rank is not classified and have no marking symbol for rank.

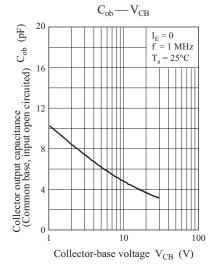


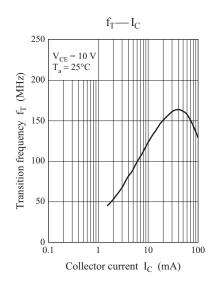








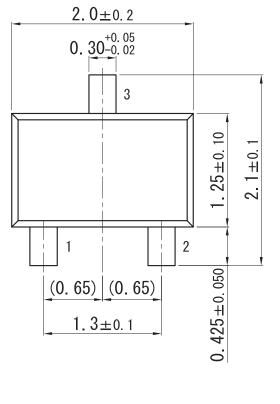


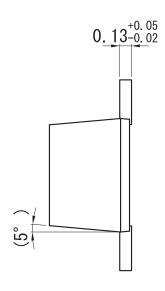


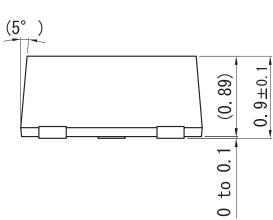
Ver. EED 2

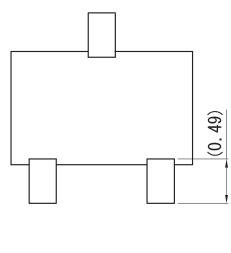
SMini3-F2-B

Unit: mm

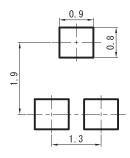








■ Land Pattern (Reference) (Unit: mm)



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