

DSC2005

Silicon NPN epitaxial planar type

For general amplification
Complementary to DSA2005

■ Features

- High forward current transfer ratio h_{FE} with excellent linearity
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Contributes to miniaturization of sets, mount area reduction
- Eco-friendly Halogen-free package

■ Packaging

Embossed type (Thermo-compression sealing): 3000 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}	6	V
Collector current	I_C	200	mA
Peak collector current	I_{CP}	300	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Package

- Code
Mini3-G3-B
- Pin Name
 1. Base
 2. Emitter
 3. Collector

■ Marking Symbol: C3

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

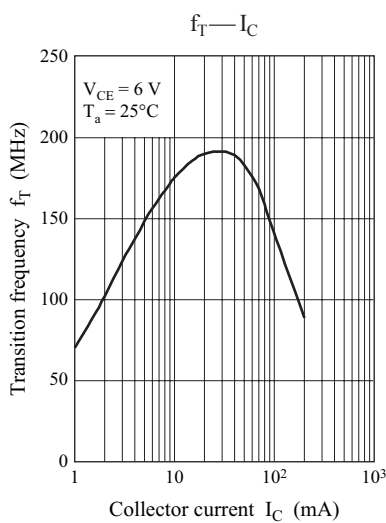
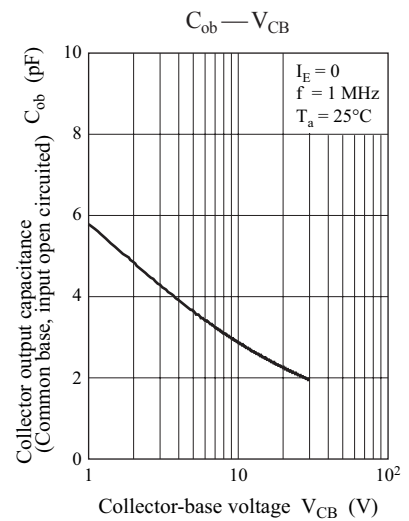
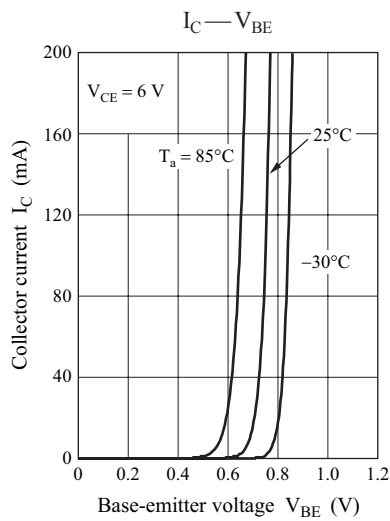
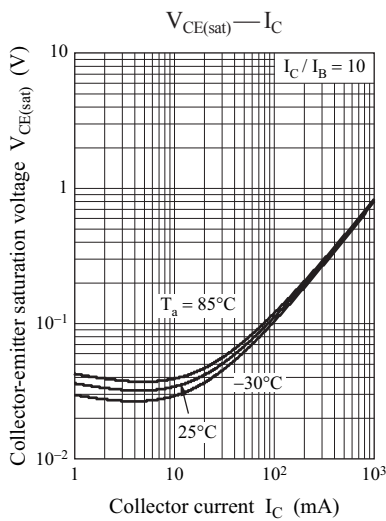
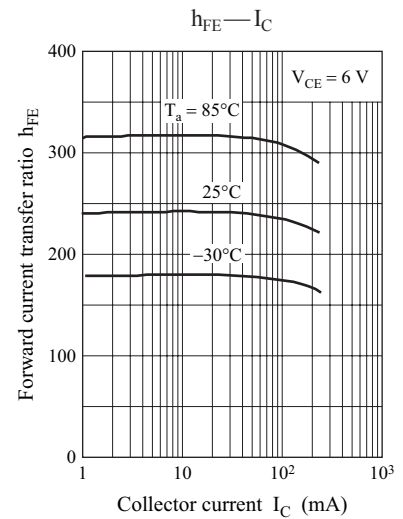
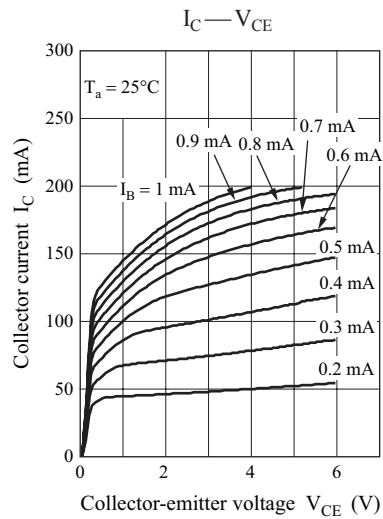
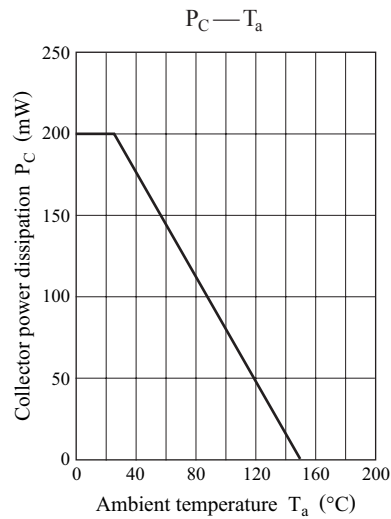
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 100 \mu\text{A}, I_B = 0$	50			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 60 \text{ V}, I_E = 0$			0.1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 6 \text{ V}, I_C = 0$			0.1	μA
Forward current transfer ratio *	h_{FE1} *	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$	150		390	—
	h_{FE2}	$V_{CE} = 6 \text{ V}, I_C = 0.1 \text{ mA}$	90			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$			0.3	V
Transition frequency	f_T	$V_{CE} = 6 \text{ V}, I_C = 10 \text{ mA}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 6 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		3.5		pF

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

2. *: Rank classification

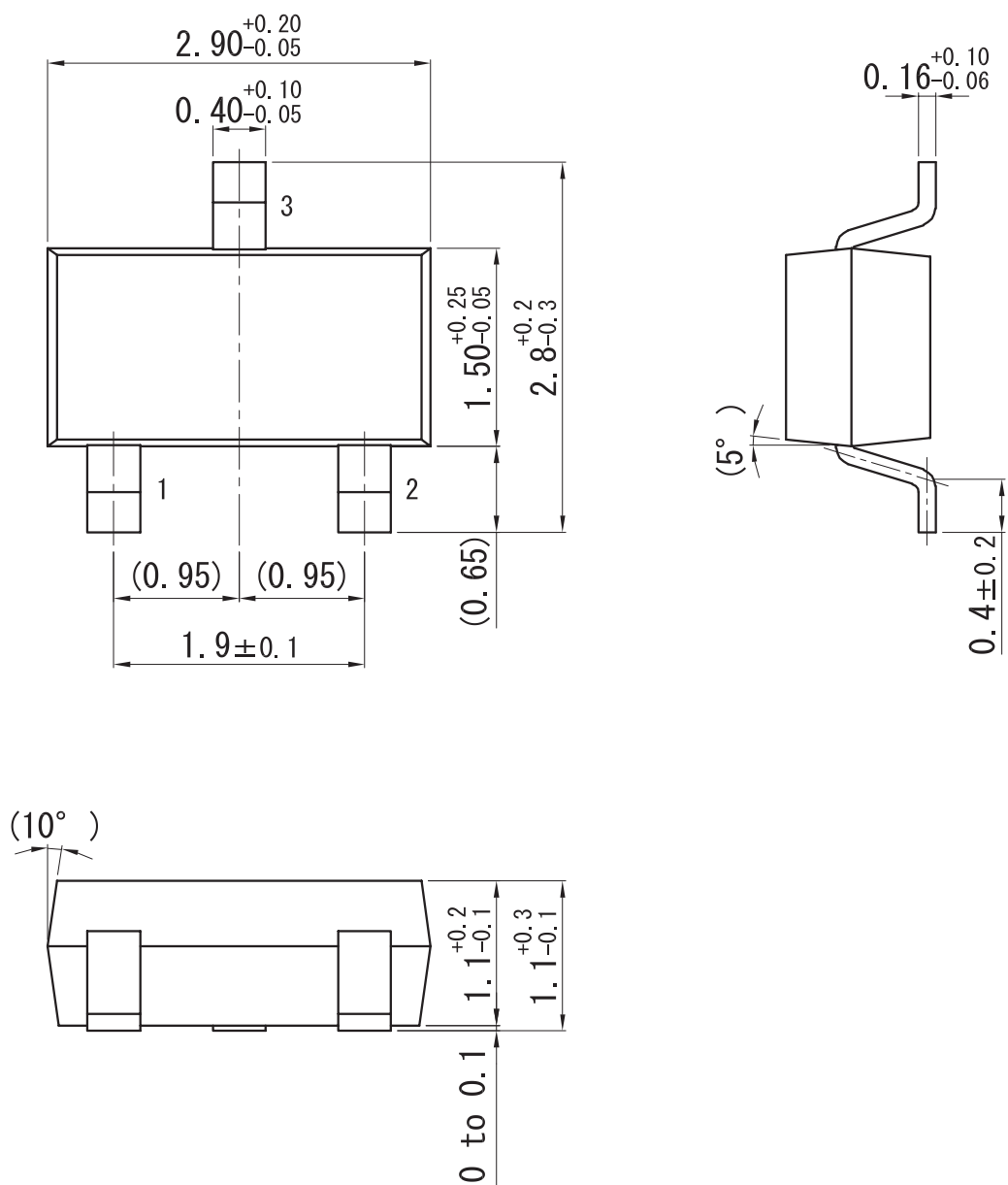
Code	R	S	0
Rank	R	S	No-rank
h_{FE1}	150 to 270	200 to 390	150 to 390
Marking Symbol	C3R	C3S	C3

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

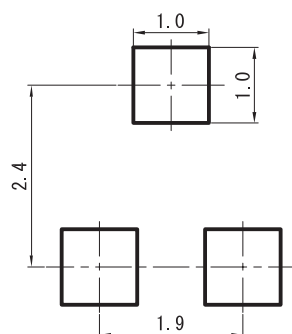


Mini3-G3-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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