DSC2P01

Silicon NPN epitaxial planar type

For low frequency amplification
Darlington connection

■ Features

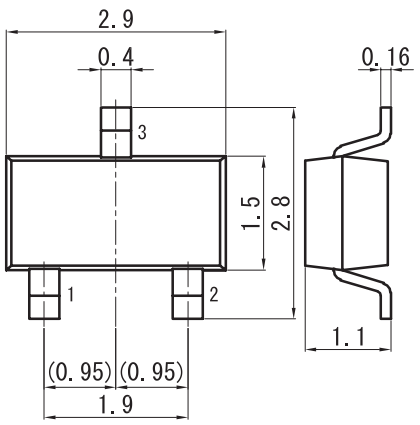
- High forward current transfer ratio h_{FE} with excellent linearity
- Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL: Level 1 compliant)

■ Marking Symbol: E5

■ Packaging

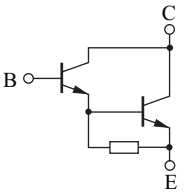
DSC2P01×0L Embossed type (Thermo-compression sealing): 3 000 pcs / reel (standard)

Unit: mm



1: Base
2: Emitter
3: Collector

Panasonic	Mini3-G3-B-B
JEITA	SC-59A
Code	TO-236AA/SOT-23



■ 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}	750	mA
Total power dissipation	P_T	200	mW
Junction temperature	T_j	150	°C
Operating ambient temperature	T_{opr}	–40 to +85	°C
Storage temperature	T_{stg}	–55 to +150	°C

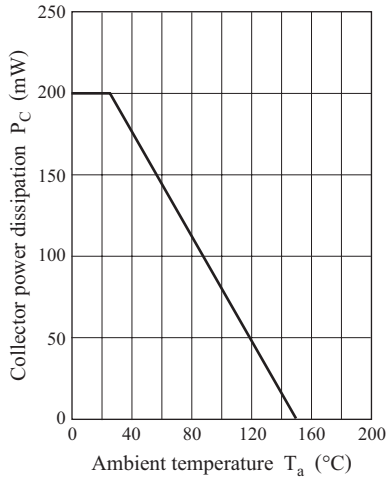
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	I_C = 100 μA, I_E = 0	60			V
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 1 mA, I_B = 0	50			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 100 μA, I_C = 0	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 25 V, I_E = 0			100	nA
Emitter-base cutoff current (Collector open)	I_{EBO}	V_{EB} = 4 V, I_C = 0			100	nA
Forward current transfer ratio *1, 2	h_{FE}	V_{CE} = 10 V, I_C = 500 mA	4 000		20 000	—
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	I_C = 500 mA, I_B = 0.5 mA			2.5	V
Base-emitter saturation voltage *1	$V_{BE(sat)}$	I_C = 500 mA, I_B = 0.5 mA			3.0	V

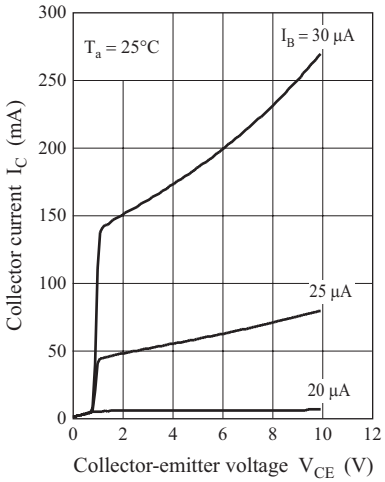
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *1: Pulse measurement
*2: Rank classification

Code	Q	R
Rank	Q	R
h_{FE}	4 000 to 10 000	8 000 to 20 000
Marking Symbol	E5Q	E5R

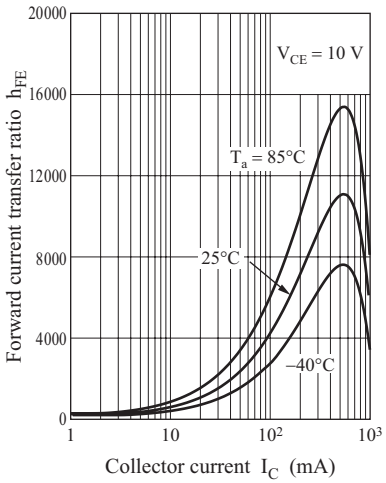
P_C — T_a



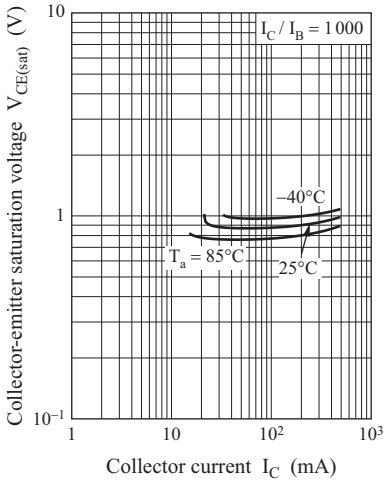
I_C — V_{CE}



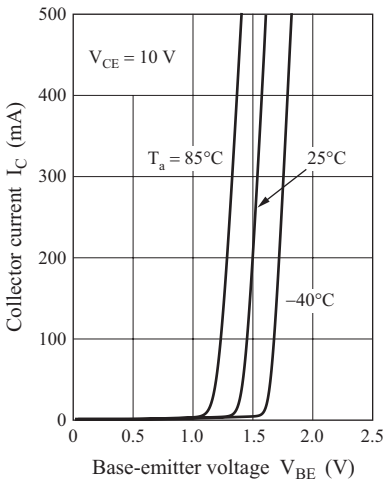
h_{FE} — I_C



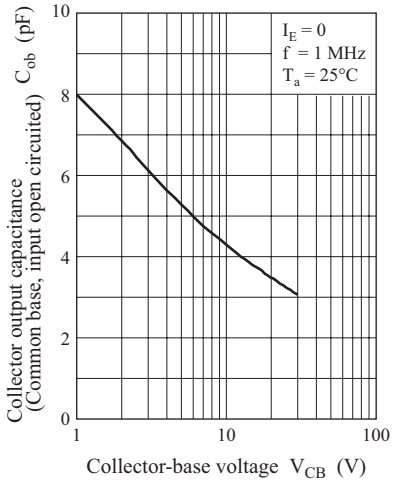
$V_{CE(sat)}$ — I_C



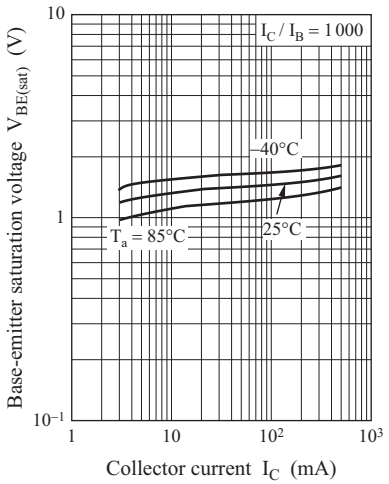
I_C — V_{BE}



C_{ob} — V_{CB}

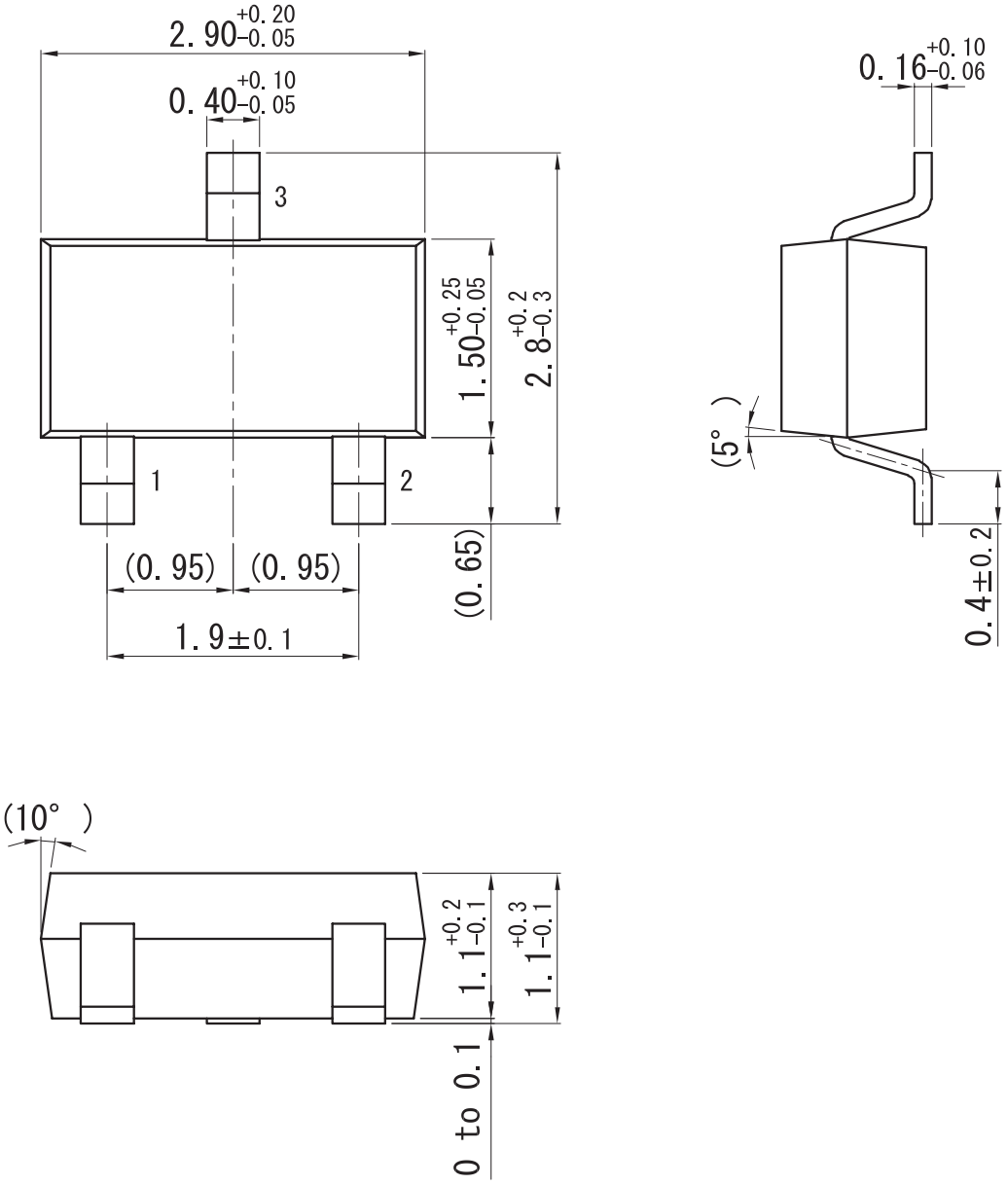


$V_{BE(sat)}$ — I_C

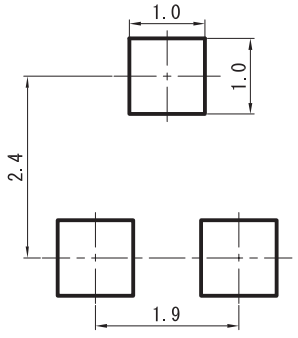


Mini3-G3-B-B

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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