DSC2002

Silicon NPN epitaxial planar type

For general amplification
Complementary to DSA2002

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- High forward current transfer ratio h_{FE} with excellent linearity
- Eco-friendly Halogen-free package

■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

■ Package

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

■ Marking Symbol: C2

■ 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	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

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

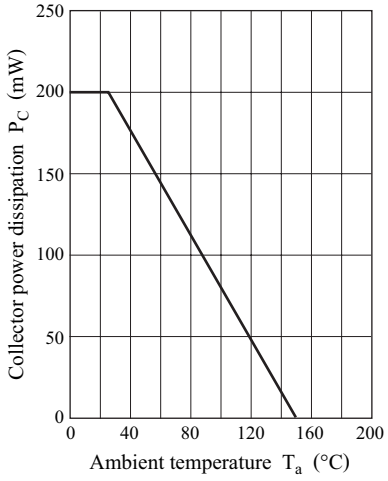
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	60			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2$ mA, $I_B = 0$	50			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20$ V, $I_E = 0$			0.1	μA
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = 10$ V, $I_C = 150$ mA	120		340	—
	h_{FE2}	$V_{CE} = 10$ V, $I_C = 500$ mA	40			
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 300$ mA, $I_B = 30$ mA		0.1	0.6	V
Transition frequency	f_T	$V_{CE} = 10$ V, $I_C = 50$ mA		160		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, f = 1 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

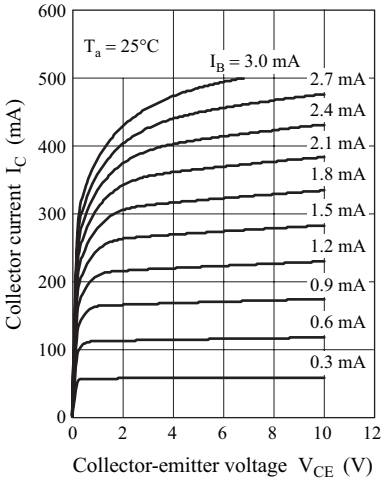
Code	R	S	0
Rank	R	S	No-rank
h_{FE}	120 to 240	170 to 340	120 to 340
Marking Symbol	C2R	C2S	C2

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

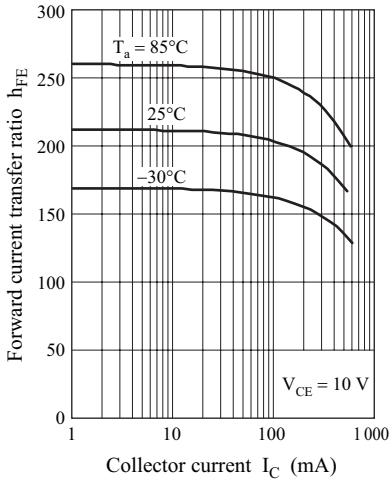
P_C — T_a



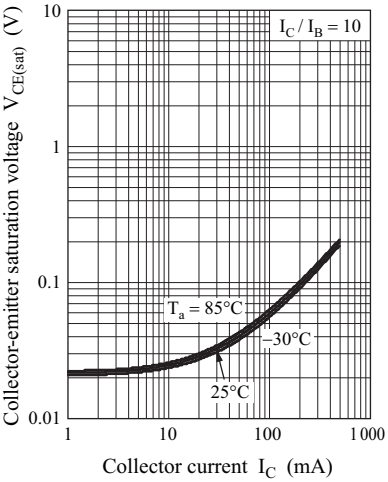
I_C — V_{CE}



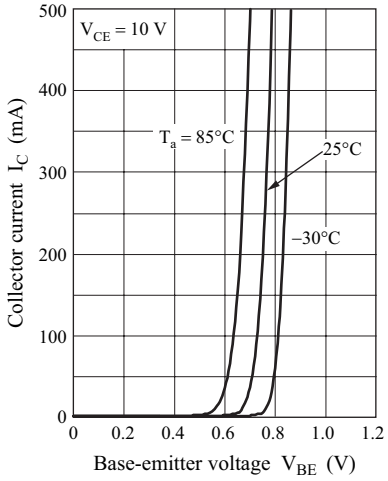
h_{FE} — I_C



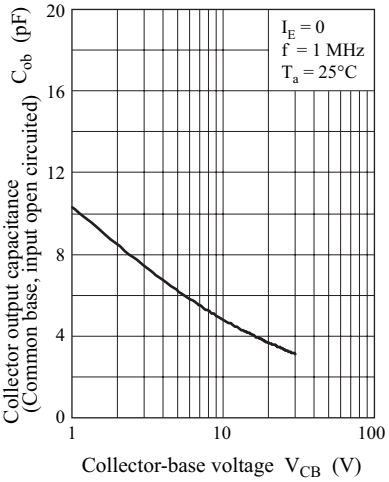
$V_{CE(sat)}$ — I_C



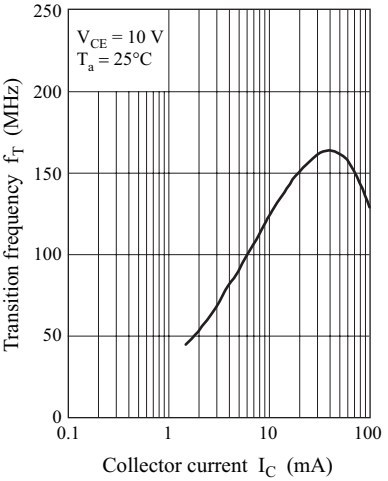
I_C — V_{BE}



C_{ob} — V_{CB}

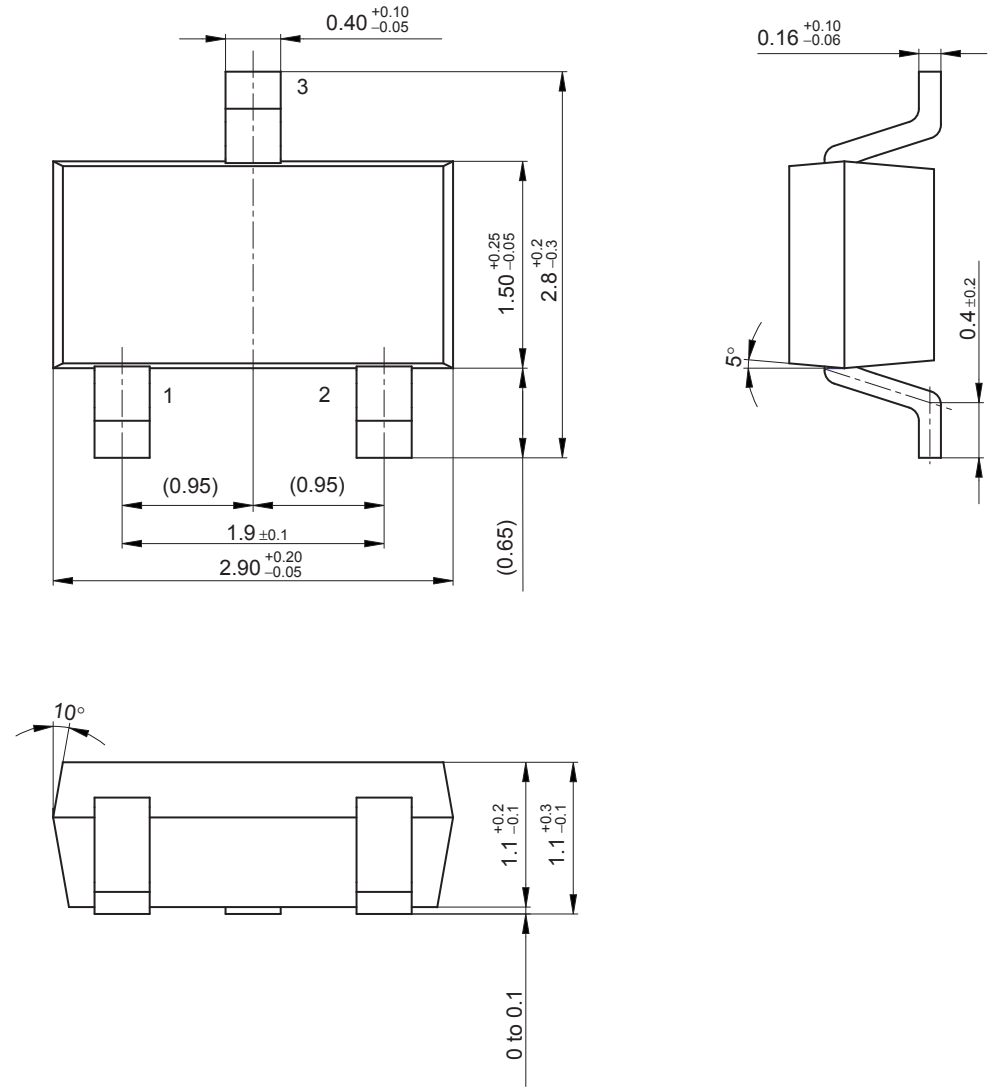


f_T — I_C



Mini3-G3-B-B

Unit: mm



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