XN05531G

Silicon NPN epitaxial planar type

For high-frequency / oscillation / mixing

■ Features

- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number

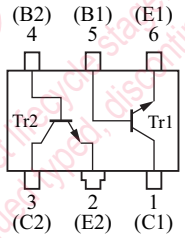
- 2SC3130 × 2

■ Package

- Code
  Mini6-G3
- Pin Name
  1: Collector (Tr1) 4: Base (Tr2)
  2: Emitter (Tr2) 5: Base (Tr1)
  3: Collector (Tr2) 6: Emitter (Tr1)

■ Marking Symbol: 5M

■ Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

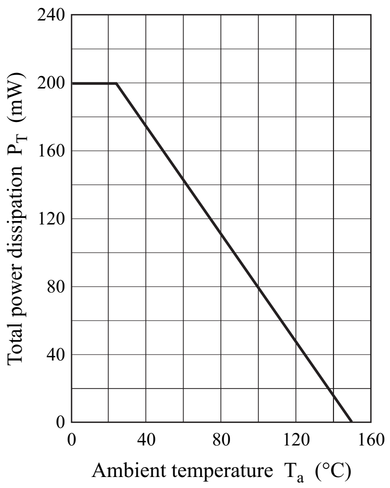
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	15	V
Collector-base voltage (Emitter open)	V_{CEO}	10	V
Emitter-base voltage (Collector open)	V_{EBO}	3	V
Collector current	I_C	50	mA
Total power dissipation	P_T	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

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

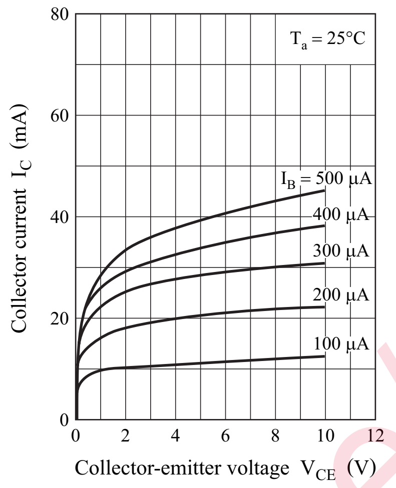
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 2 mA, I_B = 0	10			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 μA, I_C = 0	3			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 10 V, I_E = 0			1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = 10 V, I_B = 0			10	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 4 V, I_C = 5 mA	75	200	400	—
h_{FE} ratio	$h_{FE(Small/Large)}$ *1	V_{CE} = 4 V, I_C = 5 mA	0.5	0.99		—
	Δh_{FE} *2	$h_{FE2} = V_{CE}$ = 4 V, I_C = 100 μA	0.75		1.6	
		$h_{FE1} = V_{CE}$ = 4 V, I_C = 5 mA	0.75		1.6	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 20 mA, I_B = 4 mA			0.5	V
Transition frequency	f_T	V_{CB} = 4 V, I_E = –5 mA, f = 200 MHz	1.4	1.9	2.5	GHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 4 V, I_E = 0, f = 1 MHz		0.9	1.1	pF
Reverse transfer capacitance (Common base)	C_{rb}	V_{CB} = 4 V, I_E = 0, f = 1 MHz		0.25	0.35	pF
Collector-base parameter	$r_{bb'} \cdot C_C$	V_{CB} = 4 V, I_E = –5 mA, f = 30 MHz		11.8	13.5	ps

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *1: Ratio between 2 elements
*2: $\Delta h_{FE} = h_{FE2} / h_{FE1}$

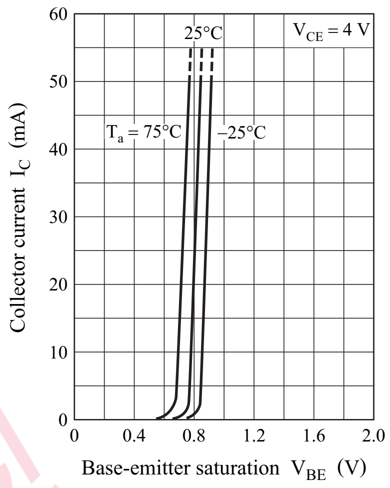
P_T — T_a



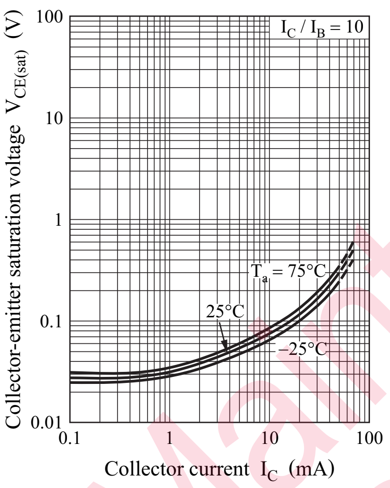
I_C — V_{CE}



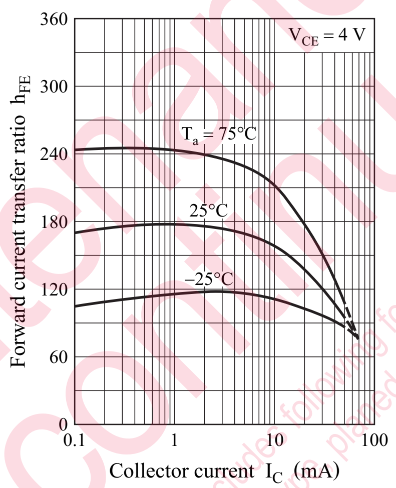
I_C — V_{BE}



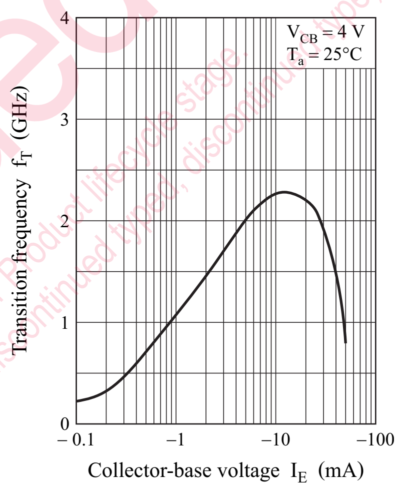
$V_{CE(sat)}$ — I_C



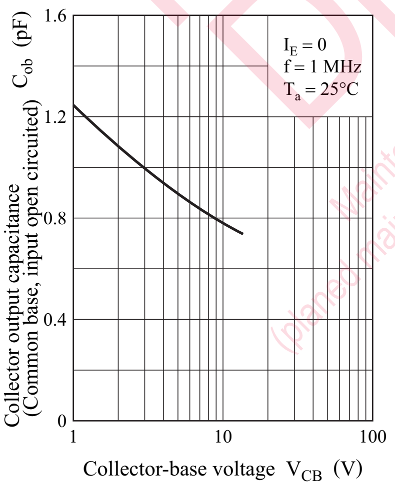
h_{FE} — I_C



f_T — I_E

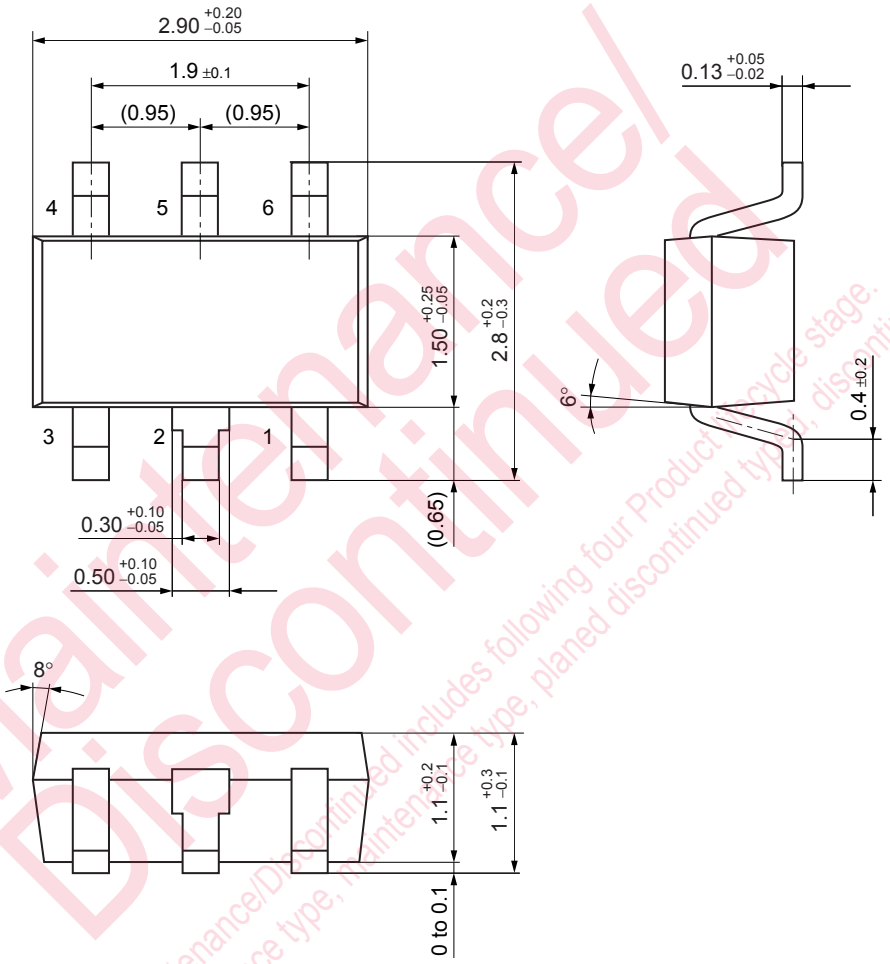


C_{ob} — V_{CB}



Mini6-G3

Unit: mm



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