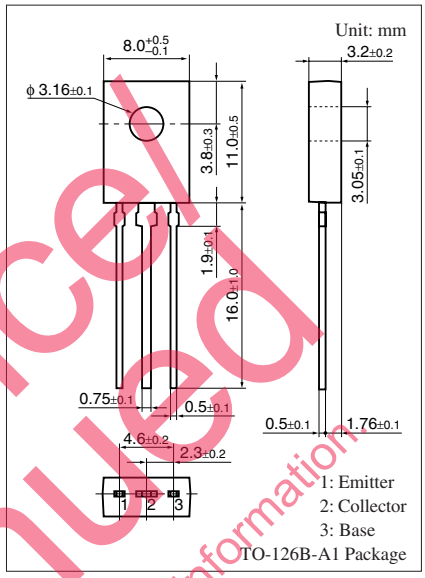
2SC2590

Silicon NPN epitaxial planar type

For low-frequency power amplification



■ Features

- Excellent collector current I_C characteristics of forward current transfer ratio h_{FE}
- High transition frequency f_T
- TO-126B package which requires no insulation plate for installation to the heat sink

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	120	V
Collector-emitter voltage (Base open)	V_{CEO}	120	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	0.5	A
Peak collector current	I_{CP}	1.0	A
Collector power dissipation	P_C	1.2	W
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 = 100 µA, I_B = 0	120			V
Emitter-base voltage (Collector open)	V_{EBO}	I_E = 10 µA, I_C = 0	5			V
Forward current transfer ratio *1	h_{FE1} *2	V_{CE} = 10 V, I_C = 150 mA	90		220	—
	h_{FE2}	V_{CE} = 5 V, I_C = 500 mA	65	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 300 mA, I_B = 30 mA			1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C = 300 mA, I_B = 30 mA			1.2	V
Transition frequency	f_T	V_{CB} = 10 V, I_E = −50 mA, f = 200 MHz		200		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		11	20	pF

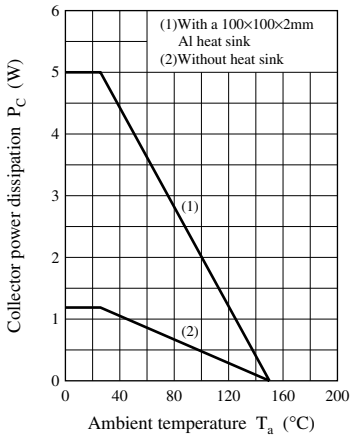
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. ∗1: Pulse measurement

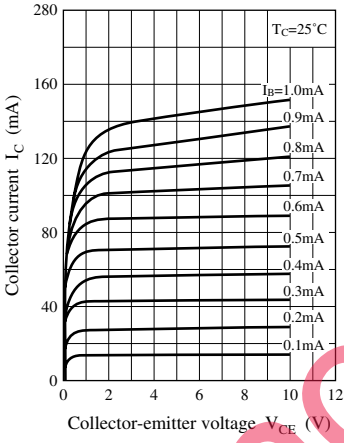
∗2: Rank classification

Rank	Q	R
h_{FE1}	90 to 155	130 to 220

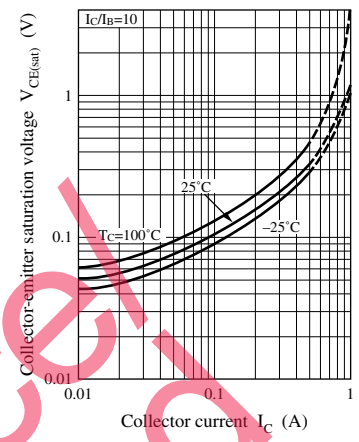
P_C — T_a



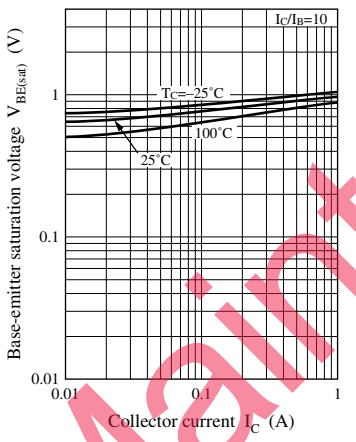
I_C — V_{CE}



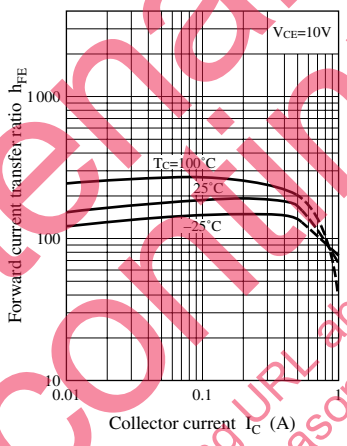
$V_{CE(sat)}$ — I_C



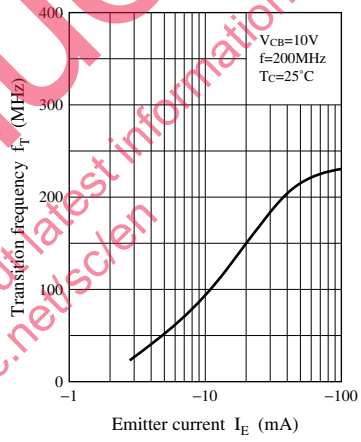
$V_{BE(sat)}$ — I_C



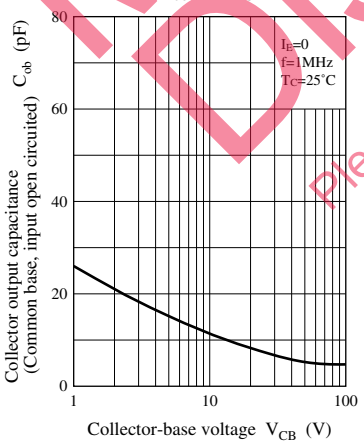
h_{FE} — I_C



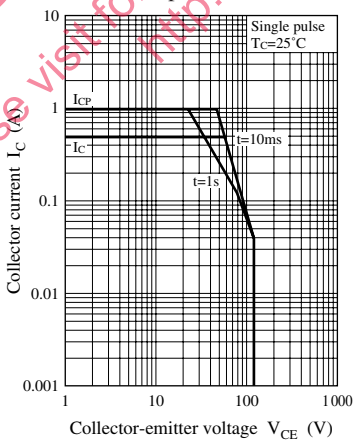
f_T — I_E



C_{ob} — V_{CB}



Safe operation area



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