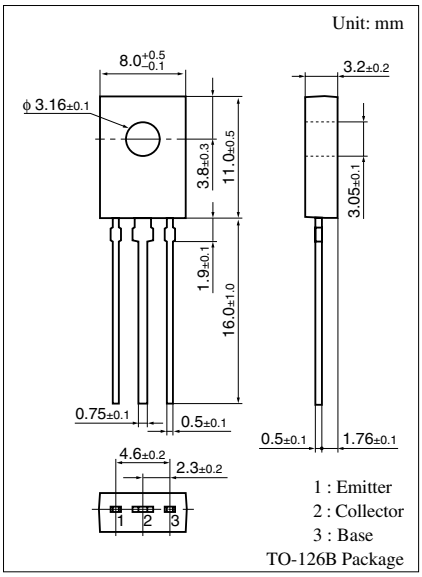
2SC2590

Silicon NPN epitaxial planar type

For low-frequency power amplification
Complementary to 2SA1110



■ Features

- Excellent current I_C characteristics of forward current transfer ratio h_{FE} vs. collector
- High transition frequency f_T
- A complementary pair with 2SA1110, is optimum for the driver-stage of a 40 W to 60 W output amplifier
- TO-126B package which requires no insulation plate for installation to the heat sink

■ Absolute Maximum Ratings $T_C = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1	A
Collector current	I_C	0.5	A
Collector power dissipation *	P_C	1.2	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Note) *: Without heat sink

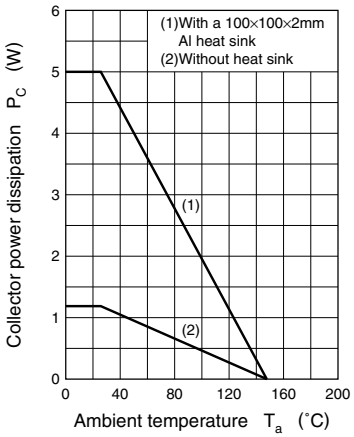
■ Electrical Characteristics $T_C = 25°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to emitter voltage	V_{CEO}	I_C = 100 µA, I_B = 0	120			V
Emitter to base voltage	V_{EBO}	I_E = 10 µA, I_C = 0	5			V
Forward current transfer ratio	h_{FE1} *	V_{CE} = 10 V, I_C = 150 mA	90		220	
	h_{FE2}	V_{CE} = 5 V, I_C = 500 mA	65	100		
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 300 mA, I_B = 30 mA			1	V
Base to 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	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz		11	20	pF

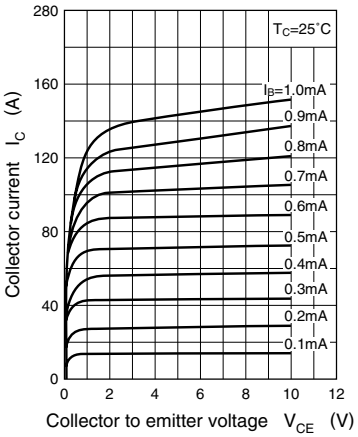
Note) *: Rank classification

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

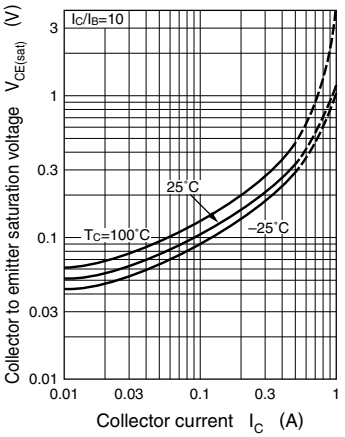
P_C — T_a



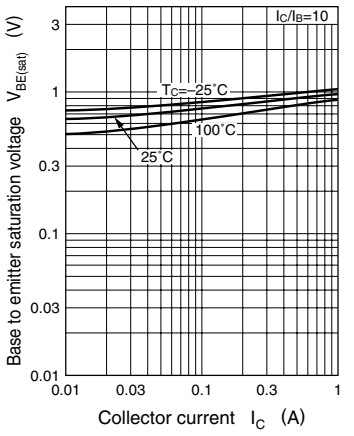
I_C — V_{CE}



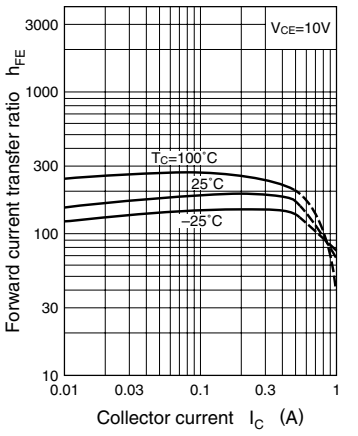
$V_{CE(sat)}$ — I_C



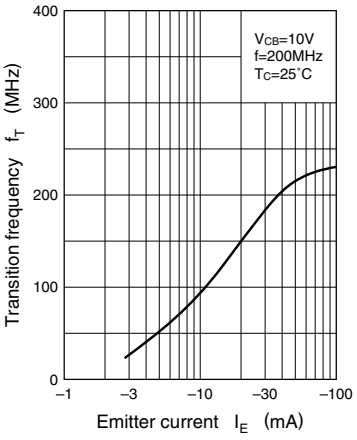
$V_{BE(sat)}$ — I_C



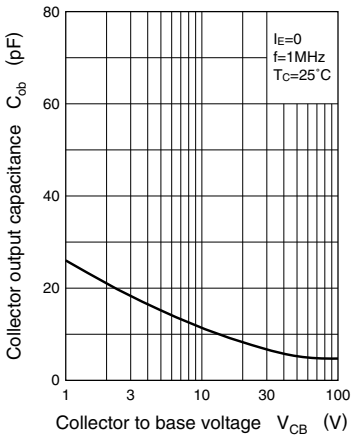
h_{FE} — I_C



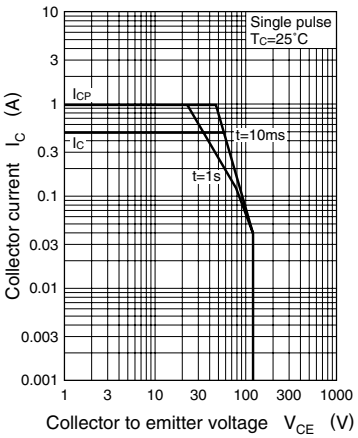
f_T — I_E



C_{ob} — V_{CB}



Area of safe operation (ASO)



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