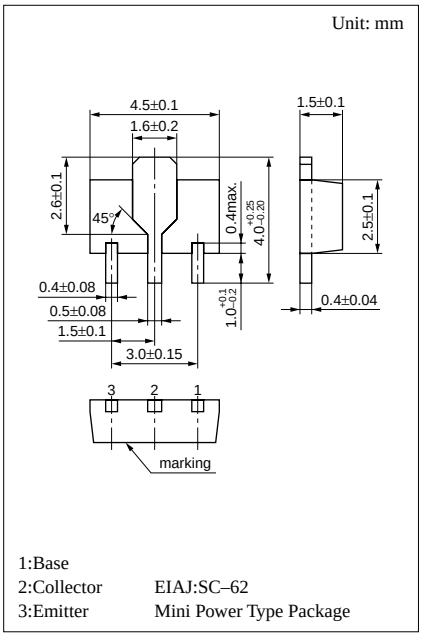
2SD1280

Silicon NPN epitaxial planer type

For low-voltage type medium output power amplification



Marking symbol : R

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Satisfactory operation performances at high efficiency with the low-voltage power supply.
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	2	A
Collector current	I_C	1	A
Collector power dissipation	P_C *	1	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25˚C)

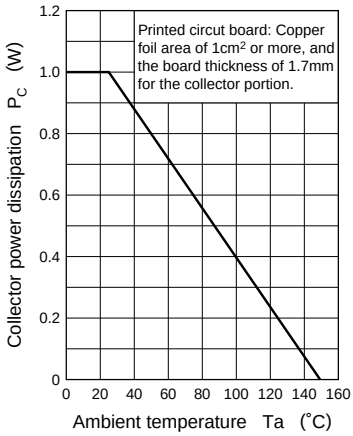
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10V, I_E = 0			1	µA
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	20			V
Emitter to base voltage	V_{EBO}	I_E = 10µA, I_C = 0	5			V
Forward current transfer ratio	h_{FE1} *1	V_{CE} = 2V, I_C = 500mA*2	90	150	360	
	h_{FE2}	V_{CE} = 2V, I_C = 1.5A*2	50	100		
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA*2			1.2	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 50mA*2			0.5	V
Transition frequency	f_T	V_{CB} = 6V, I_E = –50mA, f = 200MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB} = 6V, I_E = 0, f = 1MHz		18		pF

*2 Pulse measurement

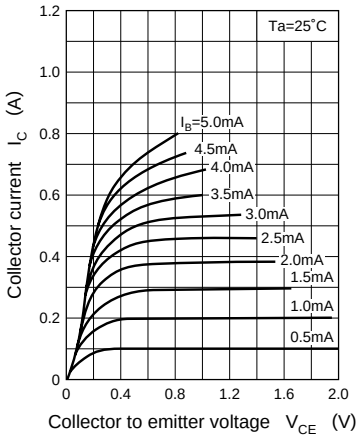
*1h_{FE1} Rank classification

Rank	Q	R	S	T
h_{FE1}	90 ~ 155	130 ~ 210	180 ~ 280	250 ~ 360
Marking Symbol	RQ	RR	RS	RT

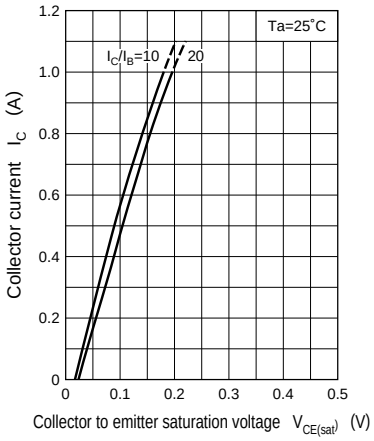
P_C — Ta



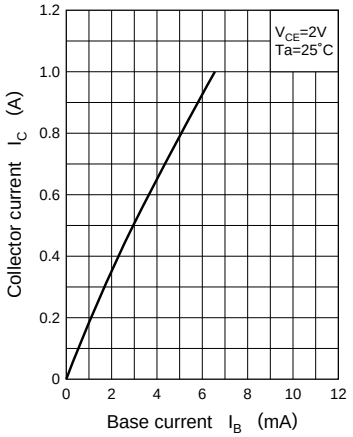
I_C — V_{CE}



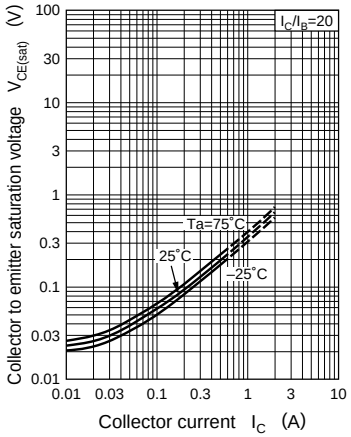
I_C — $V_{CE(sat)}$



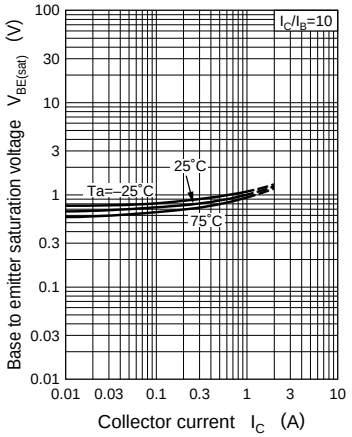
I_C — I_B



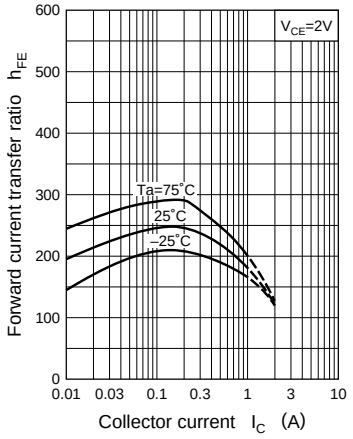
$V_{CE(sat)}$ — I_C



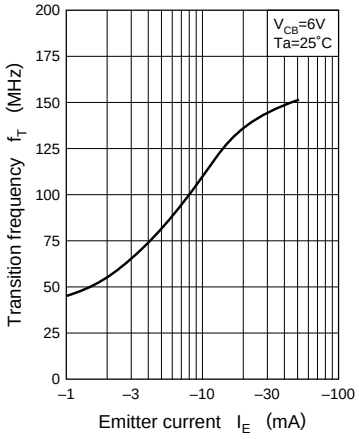
$V_{BE(sat)}$ — I_C



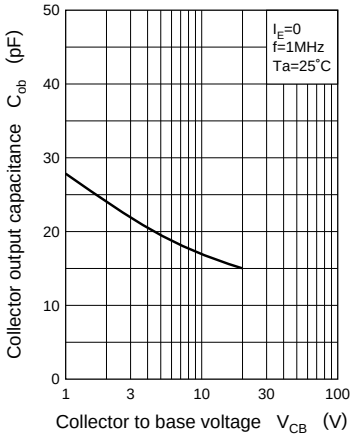
h_{FE} — I_C



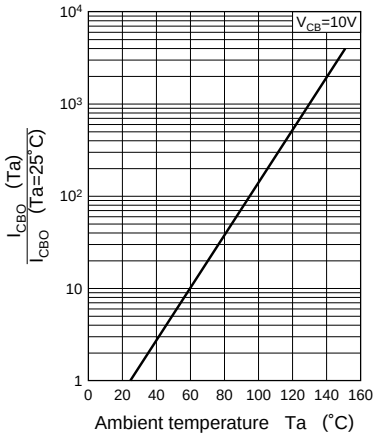
f_T — I_E



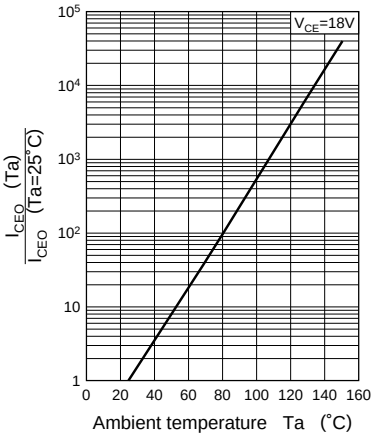
C_{ob} — V_{CB}



I_{CBO} — Ta



I_{CEO} — Ta



Area of safe operation (ASO)