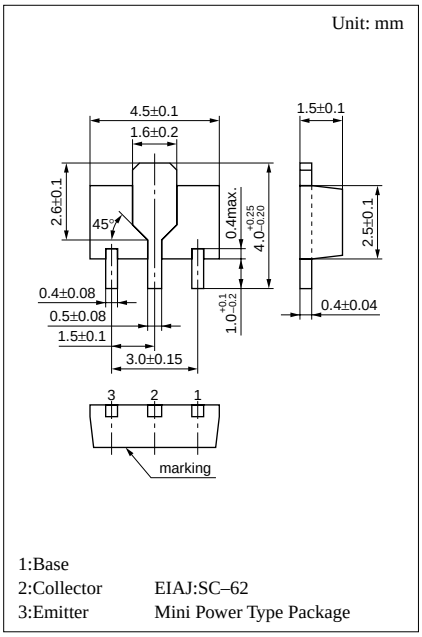
2SD2185

Silicon NPN epitaxial planer type

For low-frequency output amplification
Complementary to 2SB1440



Marking symbol : 1H

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- 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}	50	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	4	A
Collector current	I_C	3	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)

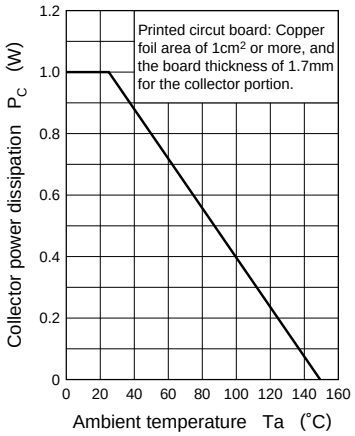
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 20V, I_E = 0			0.1	μA
Collector to base voltage	V_{CBO}	I_C = 10μA, I_E = 0	50			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	50			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	5			V
Forward current transfer ratio	h_{FE1}*1	V_{CE} = 2V, I_C = 200mA	120		340	
	h_{FE2}	V_{CE} = 2V, I_C = 1.0A	80			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 50mA		0.15	0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 50mA		0.82	1.2	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –50mA, f = 200MHz		110		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHZ		23	35	pF

*2 Pulse measurement

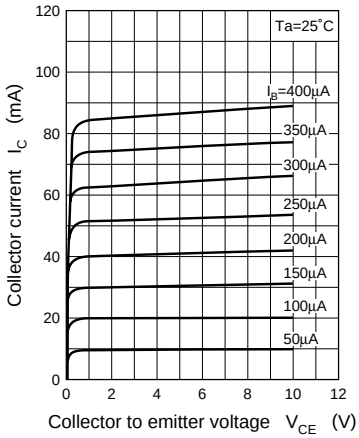
*1h_{FE1} Rank classification

Rank	R	S
h_{FE1}	120 ~ 240	170 ~ 340
Marking Symbol	1HR	1HS

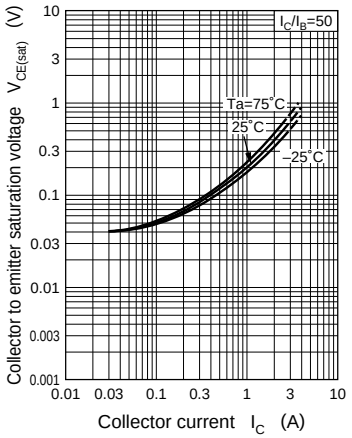
P_C — Ta



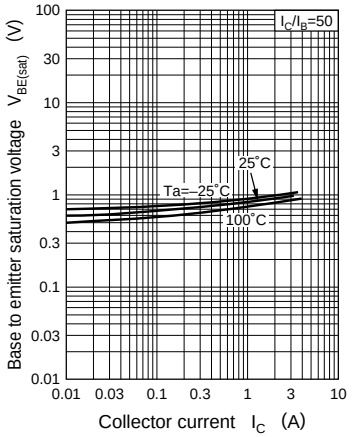
I_C — V_{CE}



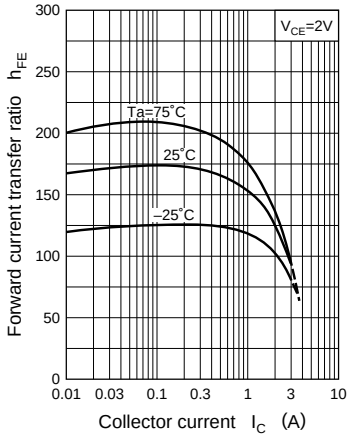
$V_{CE(sat)}$ — I_C



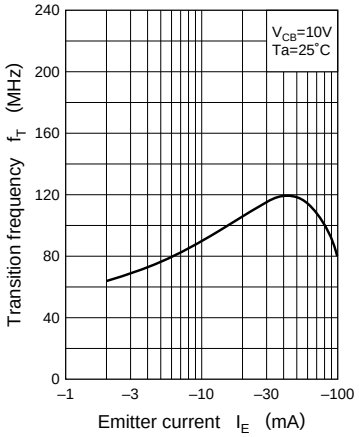
$V_{BE(sat)}$ — I_C



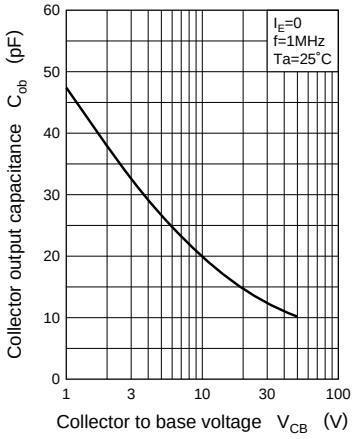
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



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