2SD2184

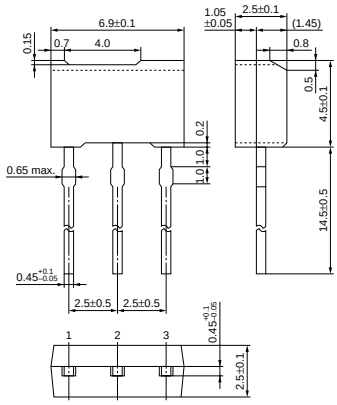
Silicon NPN epitaxial planer type

For low-frequency output amplification
Complementary to 2SB1438

Features

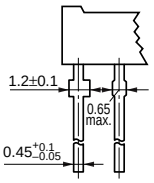
- High collector to emitter voltage V_{CEO}.
- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Allowing supply with the radial taping.

Unit: mm



Note: In addition to the lead type shown in the upper figure, the type as shown in the lower figure is also available.

1:Emitter
2:Collector
3:Base
MT2 Type Package



(HW type)

Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	150	V
Collector to emitter voltage	V_{CEO}	150	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	1	A
Collector power dissipation	P_C *1	1	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

*1 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)

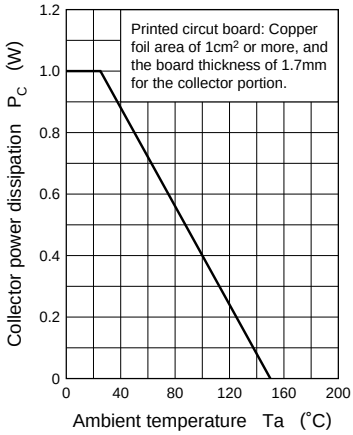
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 75V, I_E = 0			0.1	μA
Collector to base voltage	V_{CBO}	I_C = 10μA, I_E = 0	150			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	150			V
Emitter to base voltage	V_{EBO}	I_E = 10μA, I_C = 0	5			V
Forward current transfer ratio	h_{FE1} *1	V_{CE} = 2V, I_C = 100mA	120		340	
	h_{FE2}	V_{CE} = 2V, I_C = 500mA	40			
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 25mA*2		0.11	0.3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 25mA*2		0.8	1.2	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –50mA, f = 200MHz		90		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		12	20	pF

*2 Pulse measurement

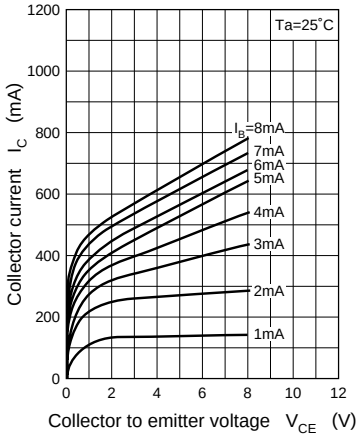
*1 h_{FE1} Rank classification

Rank	R	S
h_{FE1}	120 ~ 240	170 ~ 340

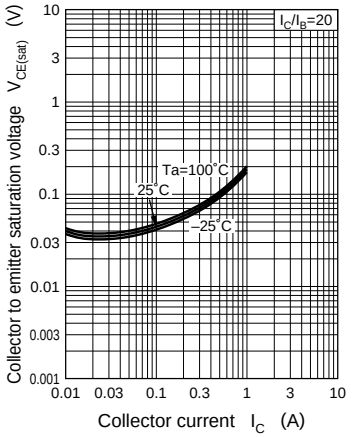
P_C — Ta



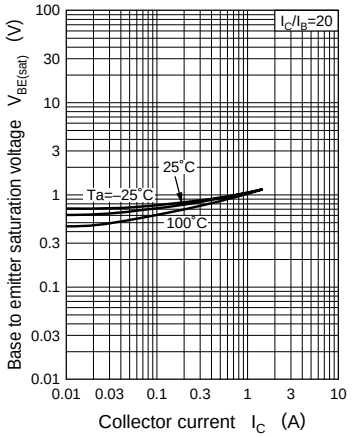
I_C — V_{CE}



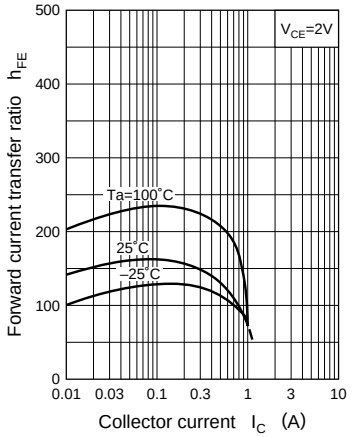
$V_{CE(sat)}$ — I_C



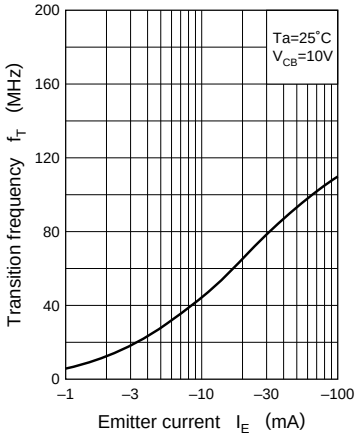
$V_{BE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}