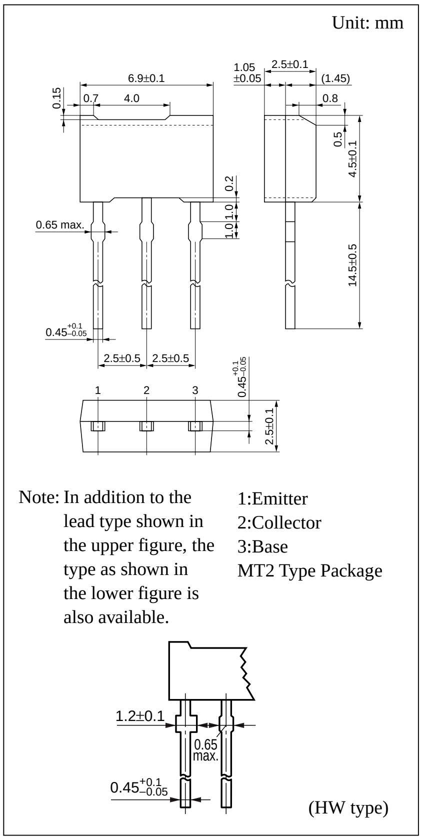
2SB1377

Silicon PNP epitaxial planer type

For low-frequency power amplification and driver amplification
Complementary to 2SD2071



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

■ Features

- Allowing supply with the radial taping.

■ Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	–60	V
Collector to emitter voltage	V_{CEO}	–50	V
Emitter to base voltage	V_{EBO}	–5	V
Peak collector current	I_{CP}	–1	A
Collector current	I_C	–500	mA
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

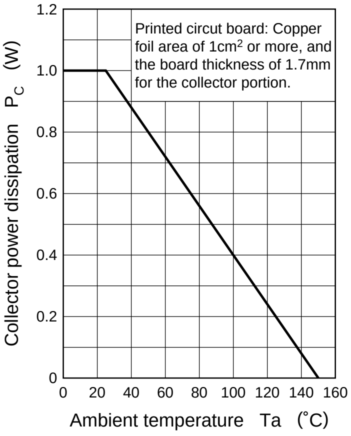
■ Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –20V, I_E = 0			– 0.1	µA
	I_{CEO}	V_{CE} = –20V, I_B = 0			–1	µA
Collector to base voltage	V_{CBO}	I_C = –10µA, I_E = 0	–60			V
Collector to emitter voltage	V_{CEO}	I_C = –2mA, I_B = 0	–50			V
Emitter to base voltage	V_{EBO}	I_E = –10µA, I_C = 0	–5			V
Forward current transfer ratio	$h_{FE1}{}^*$	V_{CE} = –10V, I_C = –10mA	85	160	340	
	h_{FE2}	V_{CE} = –10V, I_C = –500mA	40	90		
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –300mA, I_B = –30mA		– 0.35	– 0.6	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = –300mA, I_B = –30mA		–1.1	–1.5	V
Transition frequency	f_T	V_{CB} = –10V, I_E = 10mA, f = 200MHz		200		MHz
Collector output capacitance	C_{ob}	V_{CB} = –10V, I_E = 0, f = 1MHz		6	15	pF

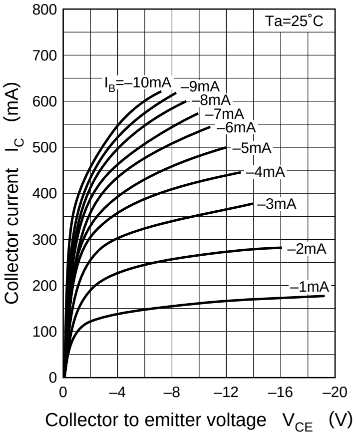
*h_{FE1} Rank classification

Rank	Q	R	S
h_{FE1}	85 ~ 170	120 ~ 240	170 ~ 340

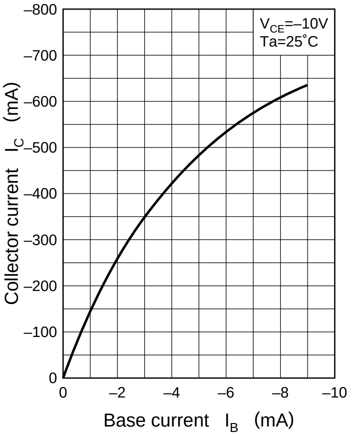
P_C — Ta



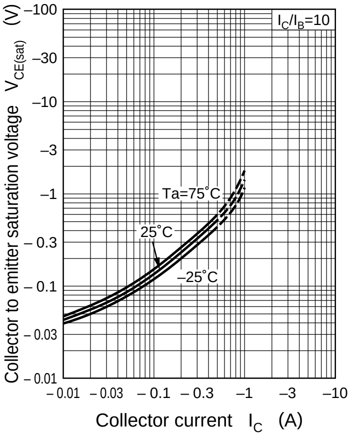
I_C — V_{CE}



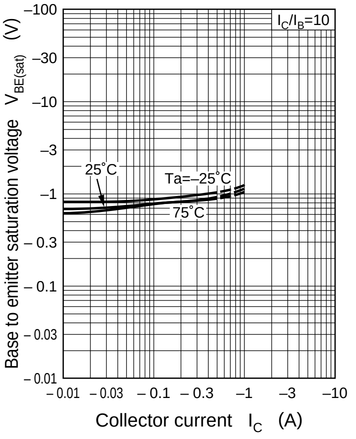
I_C — I_B



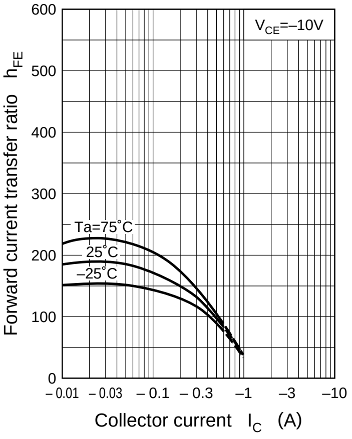
$V_{CE(sat)}$ — I_C



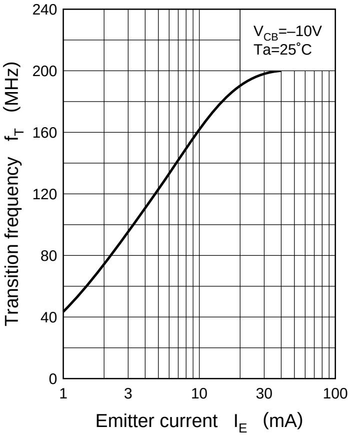
$V_{BE(sat)}$ — I_C



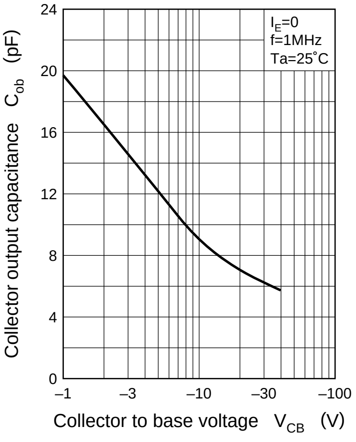
h_{FE} — I_C



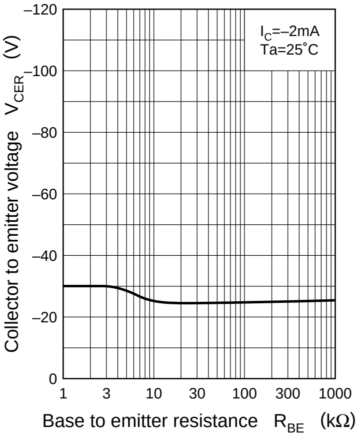
f_T — I_E



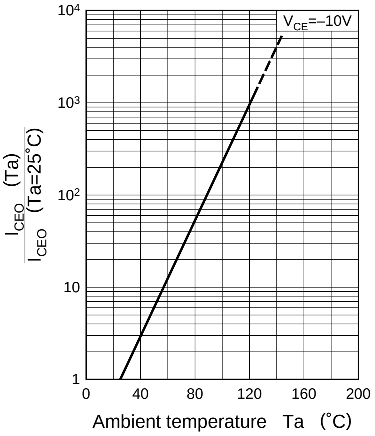
C_{ob} — V_{CB}



V_{CER} — R_{BE}



I_{CEO} — Ta


V_{CE}=–10V
10^4
10^3
10^2
10
1
$\frac{I_{CEO}\ (Ta)}{I_{CEO}\ (Ta=25^\circ C)}$
0
40
80
120
160
200
Ambient temperature Ta (˚C)