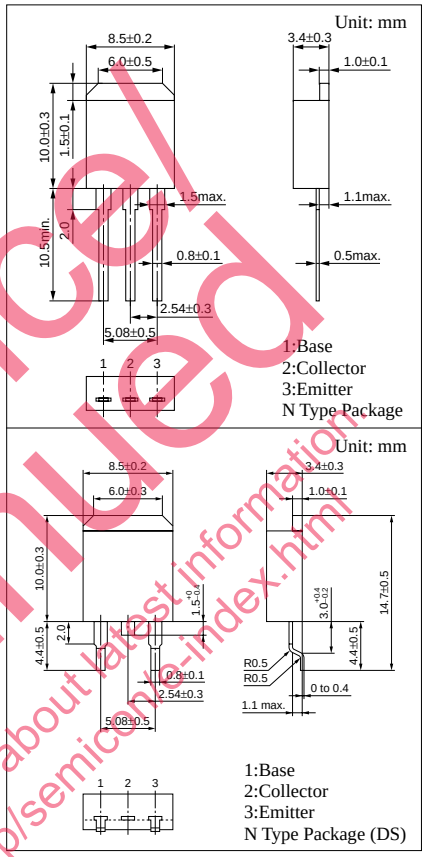
2SB1643

Silicon PNP epitaxial planar type

For power amplification



Features

- High collector to emitter V_{CEO}
- High collector power dissipation P_C
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	–60	V
Collector to emitter voltage		V_{CEO}	–60	V
Emitter to base voltage		V_{EBO}	–6	V
Peak collector current		I_{CP}	–6	A
Collector current		I_C	–3	A
Base current		I_B	–1	A
Collector power dissipation	T_C=25°C	P_C	40	W
	Ta=25°C		1.3	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

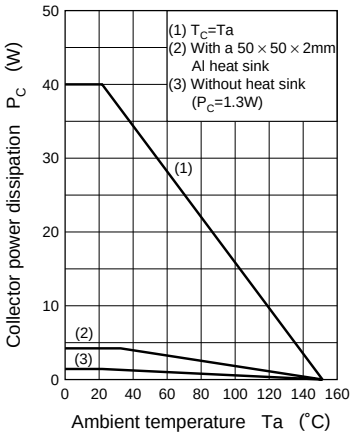
Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = –60V, I_E = 0			–100	µA
	I_{CEO}	V_{EB} = –40V, I_C = 0			–100	µA
Emitter cutoff current	I_{EBO}	V_{EB} = –6V, I_C = 0			–100	µA
Collector to emitter voltage	V_{CEO}	I_C = –25mA, I_B = 0	–60			V
Forward current transfer ratio	h_{FE}*	V_{CE} = –4V, I_C = – 0.5A	300		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = –2A, I_B = – 0.05A			–1	V
Transition frequency	f_T	V_{CE} = –12V, I_C = – 0.2A, f = 10MHz		30		MHz

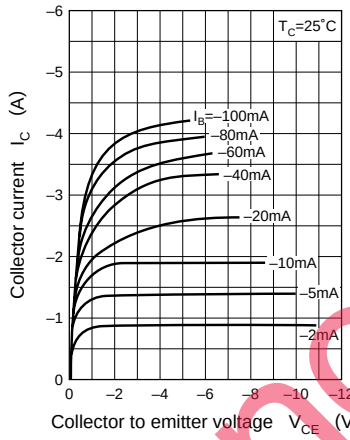
*h_{FE} Rank classification

Rank	Q	P
h_{FE}	300 to 500	400 to 700

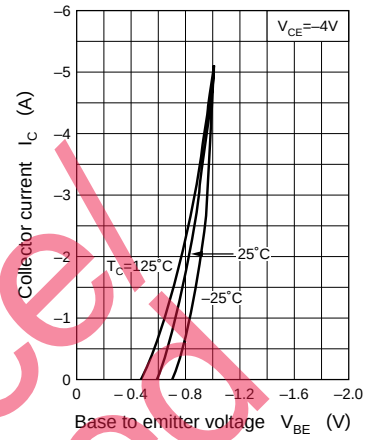
P_C — Ta



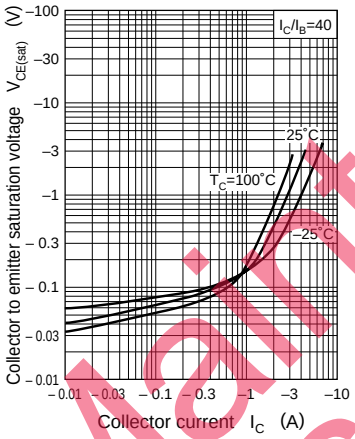
I_C — V_{CE}



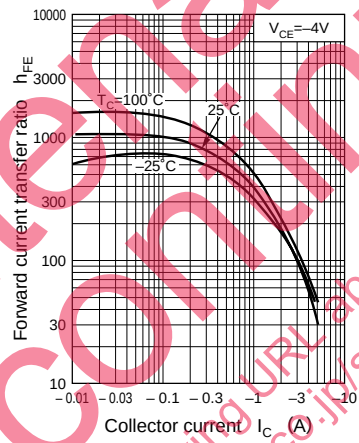
I_C — V_{BE}



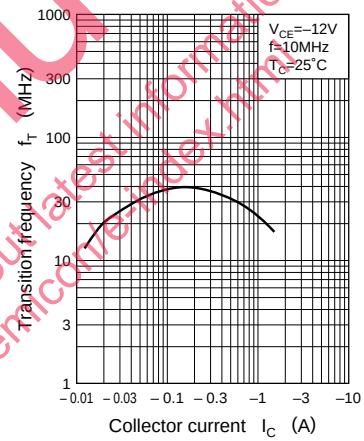
$V_{CE(sat)}$ — I_C



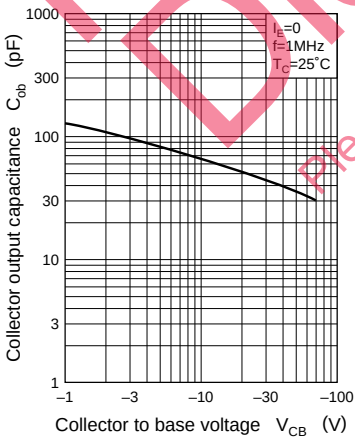
h_{FE} — I_C



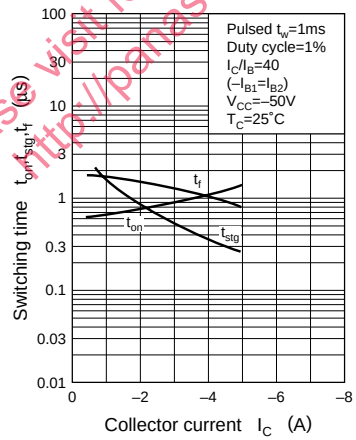
f_T — I_C



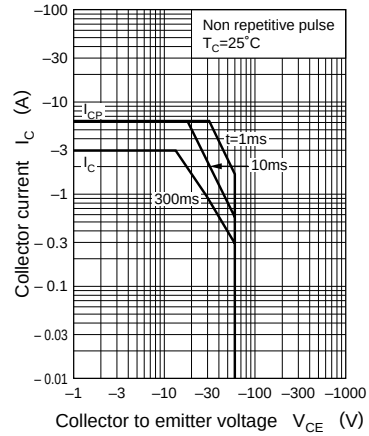
C_{ob} — V_{CB}



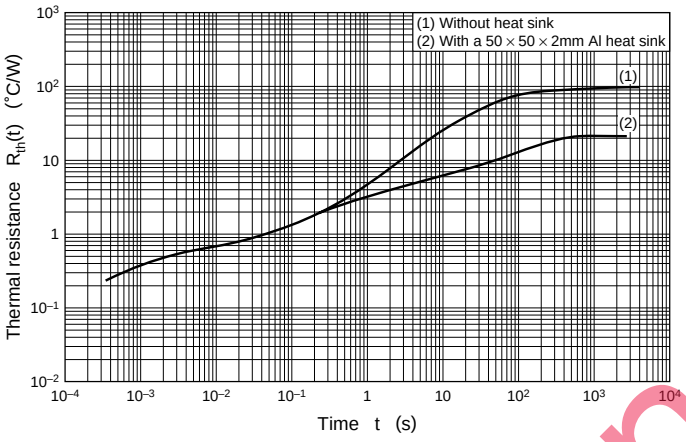
t_{on}, t_{stg}, t_f — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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