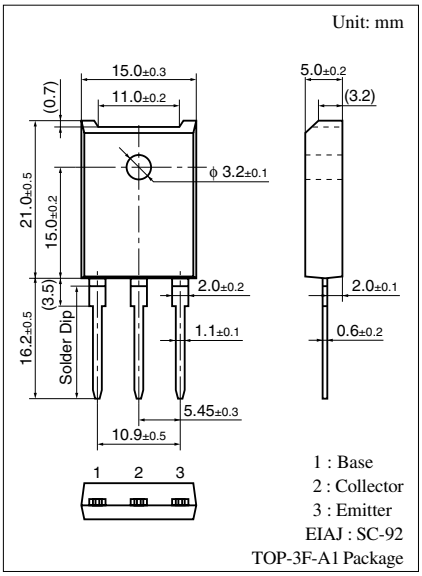
2SB1054

Silicon PNP triple diffusion planar type

For high power amplification
Complementary to 2SD1485



■ Features

- Excellent current I_C characteristics of forward current transfer ratio h_{FE} vs. collector
- Wide area of safe operation (ASO)
- High transition frequency f_T
- Full-pack package which can be installed to the heat sink with one screw

■ Absolute Maximum Ratings $T_C = 25°C$

Parameter		Symbol	Rating	Unit
Collector to base voltage		V_{CBO}	−100	V
Collector to emitter voltage		V_{CEO}	−100	V
Emitter to base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−8	A
Collector current		I_C	−5	A
Collector power dissipation	$T_C = 25°C$	P_C	60	W
	$T_a = 25°C$		3	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

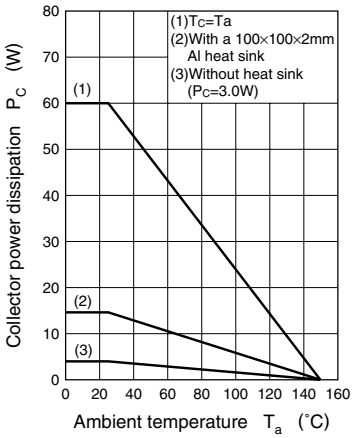
■ Electrical Characteristics $T_C = 25°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -100$ V, $I_E = 0$			−50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -3$ V, $I_C = 0$			−50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -5$ V, $I_C = -20$ mA	20			
	h_{FE2} *	$V_{CE} = -5$ V, $I_C = -1$ A	60		200	
	h_{FE3}	$V_{CE} = -5$ V, $I_C = -3$ A	20			
Base to emitter voltage	V_{BE}	$V_{CE} = -5$ V, $I_C = -3$ A			−1.8	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3$ A, $I_B = -0.3$ A			− 0.2	V
Transition frequency	f_T	$V_{CE} = -5$ V, $I_C = -0.5$ A, f = 1 MHz		20		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10$ V, f = 1 MHz		170		pF

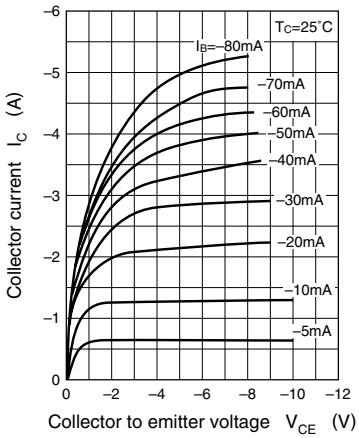
Note) ∗: Rank classification

Rank	Q	P
h_{FE2}	60 to 120	100 to 200

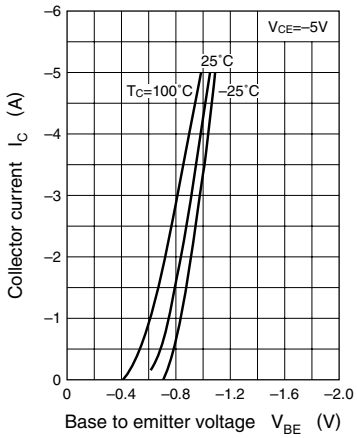
P_C — T_a



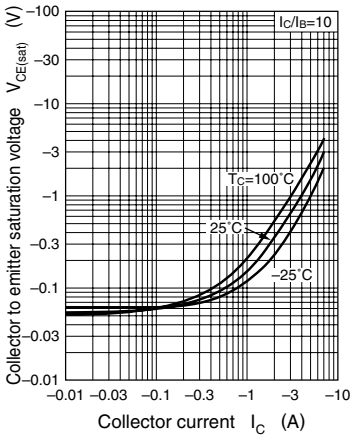
I_C — V_{CE}



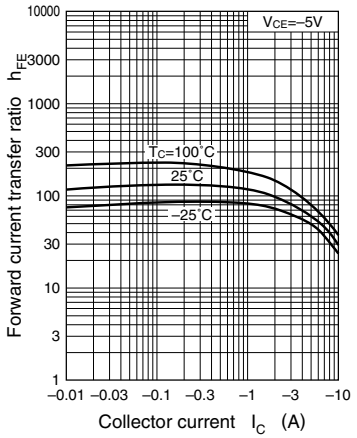
I_C — V_{BE}



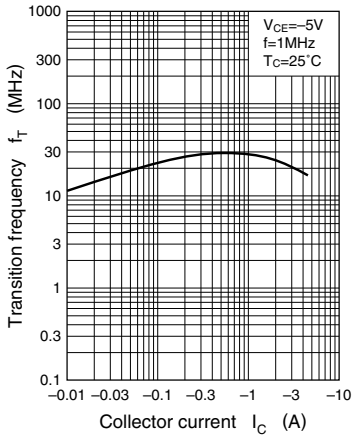
$V_{CE(sat)}$ — I_C



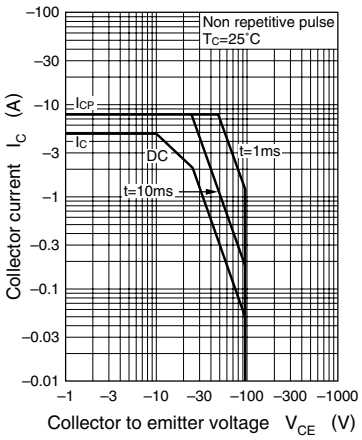
h_{FE} — I_C



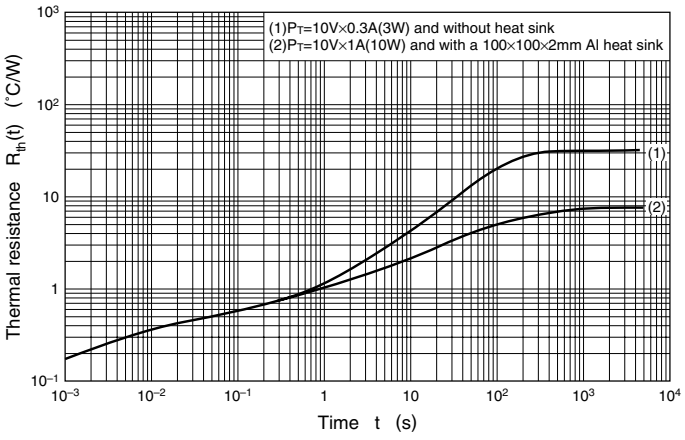
f_T — I_C



Area of safe operation (ASO)



$R_{th(t)}$ — t



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