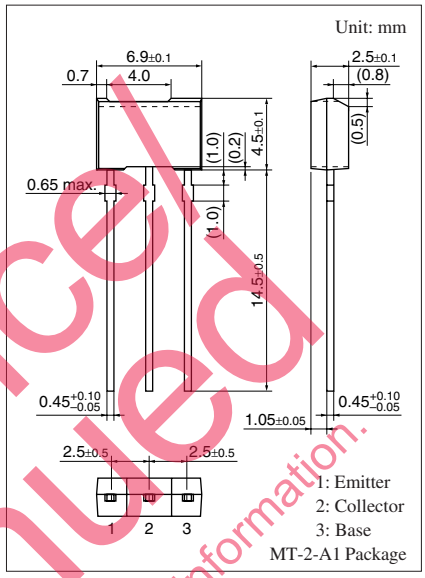
2SB1488

Silicon PNP triple diffusion planar type

For power switching



■ Features

- High forward current transfer ratio h_{FE}
- High-speed switching
- High collector-base voltage (Emitter open) V_{CBO}
- Allowing supply with the radial taping

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	−400	V
Collector-emitter voltage (Base open)	V_{CEO}	−400	V
Emitter-base voltage (Collector open)	V_{EBO}	−7	V
Collector current	I_C	− 0.5	A
Peak collector current	I_{CP}	−1	A
Collector power dissipation *	P_C	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

Note) ∗: Print circuit board: Copper foil area of 1 cm² or more, and the board thickness of 1.7 mm for the collector portion

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

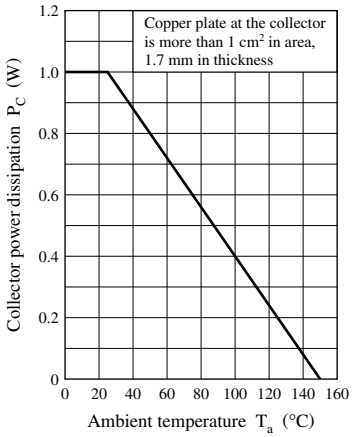
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -1$ mA, $I_B = 0$	−400			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -400$ V, $I_E = 0$			−1	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -100$ V, $I_B = 0$			−1	µA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−1	µA
Forward current transfer ratio	h_{FE1} *	$V_{CE} = -5$ V, $I_C = -50$ mA	80		280	—
	h_{FE2}	$V_{CE} = -5$ V, $I_C = -300$ mA	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100$ mA, $I_B = -10$ mA		− 0.25	− 0.50	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100$ mA, $I_B = -10$ mA		− 0.8	−1.2	V
Transition frequency	f_T	$V_{CB} = -10$ V, $I_E = 0.1$ A, f = 200 MHz		25		MHz
Turn-on time	t_{on}	$I_C = -100$ mA, $R_L = 1.5$ kΩ		0.4	1.0	µs
Storage time	t_{stg}	$I_{B1} = -10$ mA, $I_{B2} = 10$ mA		5.5	6.5	µs
Fall time	t_f	$V_{CC} = -150$ V		0.5	1.0	µs
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz		20	40	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

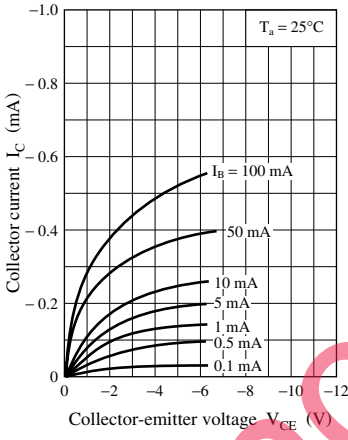
2. ∗: Rank classification

Rank	P	Q
h_{FE1}	80 to 160	130 to 280

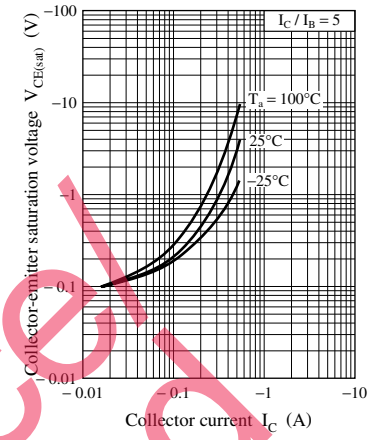
P_C — T_a



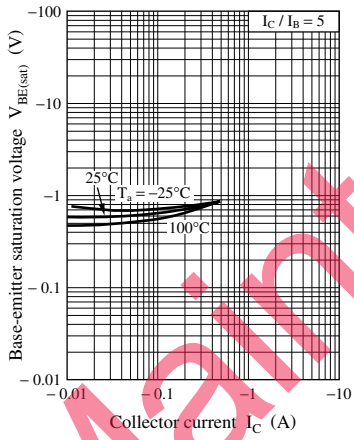
I_C — V_{CE}



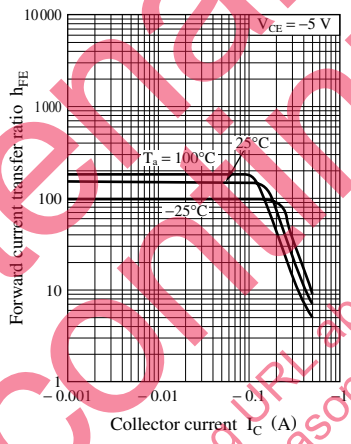
$V_{CE(sat)}$ — I_C



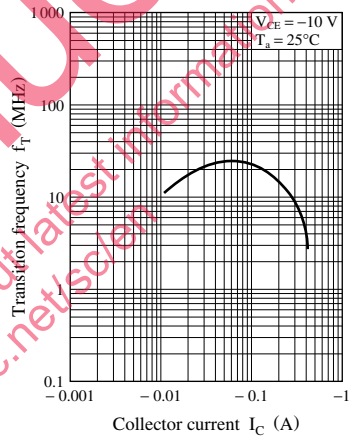
$V_{BE(sat)}$ — I_C



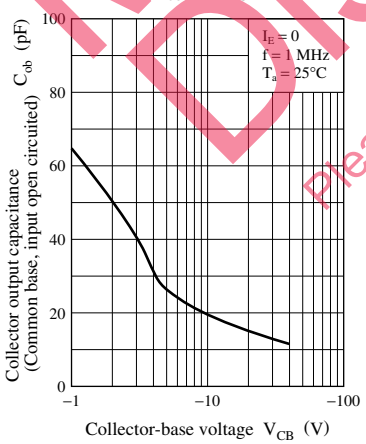
h_{FE} — I_C



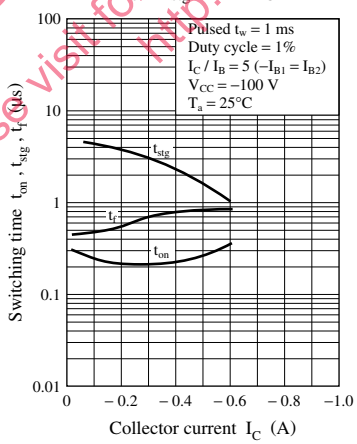
f_T — I_C



C_{ob} — V_{CB}



t_{on}, t_{stg}, t_f — I_C



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