

# 2SB1488

## Silicon PNP triple diffusion planer type

For power switching

### Features

- High forward current transfer ratio  $h_{FE}$ .
- High-speed switching.
- High collector to base voltage  $V_{CBO}$ .
- Allowing supply with the radial taping.

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-400	V
Collector to emitter voltage	$V_{CEO}$	-400	V
Emitter to base voltage	$V_{EBO}$	-7	V
Peak collector current	$I_{CP}$	-1	A
Collector current	$I_C$	-0.5	A
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<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

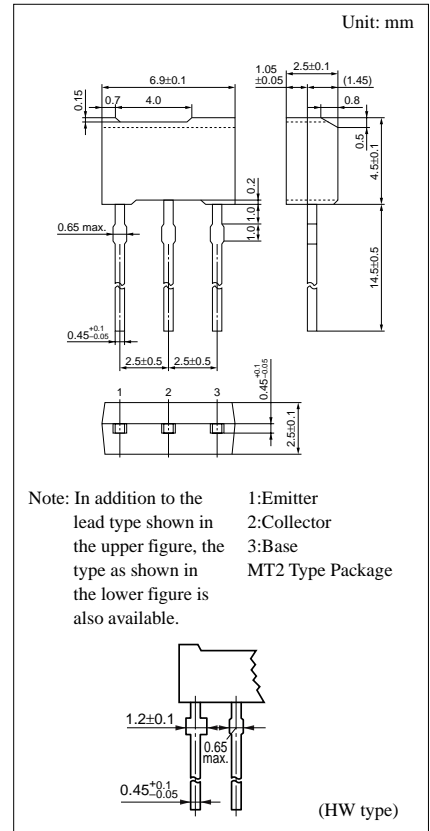
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -400V, I_E = 0$			-1	μA
	$I_{CEO}$	$V_{CE} = -100V, I_B = 0$			-1	μA
Emitter cutoff current	$I_{EBO}$	$V_{BE} = -5V, I_C = 0$			-1	μA
Collector to emitter voltage	$V_{CEO}$	$I_C = -1mA, I_B = 0$	-400			V
Forward current transfer ratio	$h_{FE1}$ <sup>*1</sup>	$V_{CE} = -5V, I_C = -50mA$	80		280	
	$h_{FE2}$	$V_{CE} = -5V, I_C = -300mA$ <sup>*2</sup>	10			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$ <sup>*2</sup>		-0.25	-0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -100mA, I_B = -10mA$ <sup>*2</sup>		-0.8	-1.2	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 0.1A, f = 1MHz$ <sup>*2</sup>		25		MHz
Turn-on time	$t_{on}$	$I_C = -100mA, R_L = 1.5k\Omega$		0.4	1.0	μs
Storage time	$t_{stg}$	$I_{B1} = -10mA, I_{B2} = 10mA$		5.5	6.5	μs
Collector current fall time	$t_f$	$V_{CC} = -150V$		0.5	1.0	μs
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$		20	40	pF

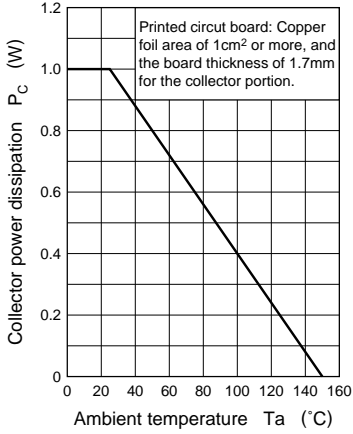
<sup>\*1</sup> $h_{FE1}$  Rank classification

Rank	P	Q
$h_{FE1}$	80 ~ 160	130 ~ 280

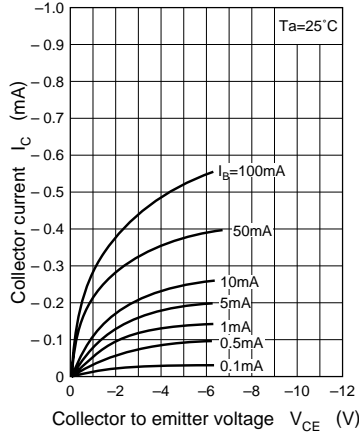
<sup>\*2</sup> Pulse measurement



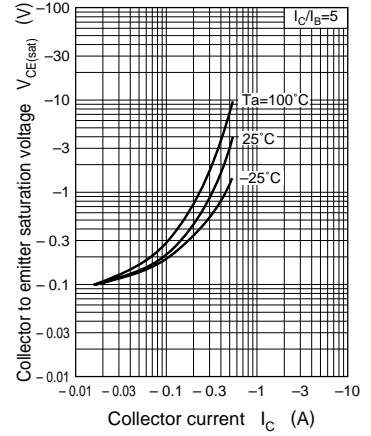
$P_C - T_a$



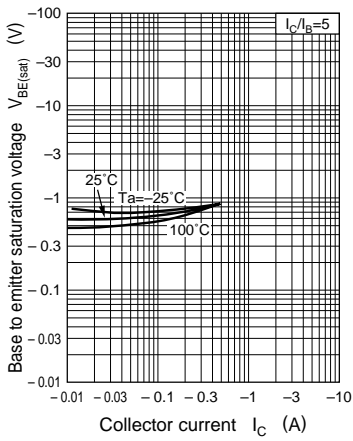
$I_C - V_{CE}$



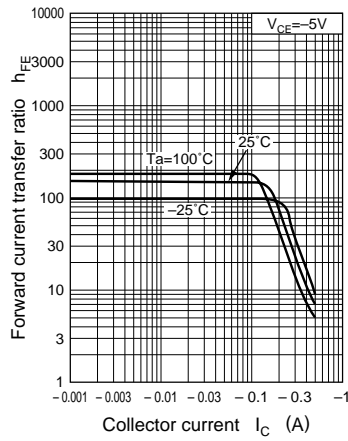
$V_{CE(sat)} - I_C$



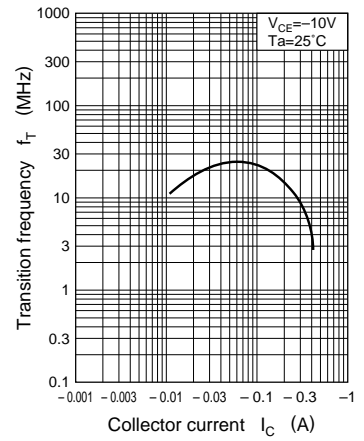
$V_{BE(sat)} - I_C$



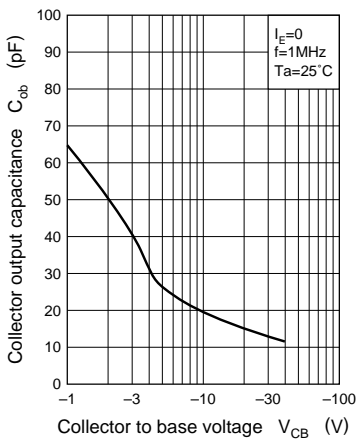
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



$t_{on}, t_{stg}, t_f - I_C$

