

# 2SB1414

## Silicon PNP epitaxial planar type

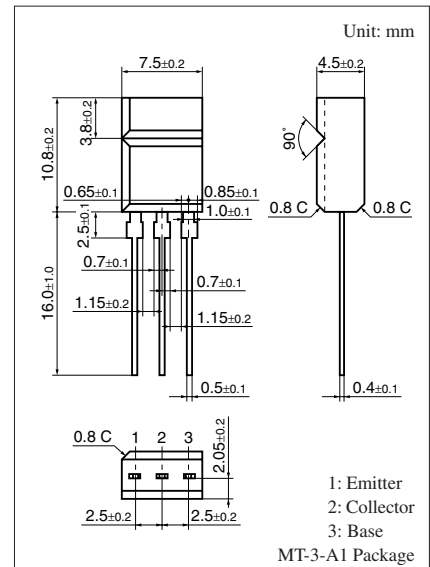
For low-frequency driver/high power amplification  
Complementary to 2SD2134

### ■ Features

- Excellent current  $I_C$  characteristics of forward current transfer ratio  $h_{FE}$  vs. collector
- High transition frequency  $f_T$
- Allowing automatic insertion with radial taping

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	-150	V
Collector-emitter voltage (Base open)	$V_{CEO}$	-150	V
Emitter-base voltage (Collector open)	$V_{EBO}$	-5	V
Collector current	$I_C$	-1	A
Peak collector current	$I_{CP}$	-1.5	A
Collector power dissipation	$P_C$	1.5	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

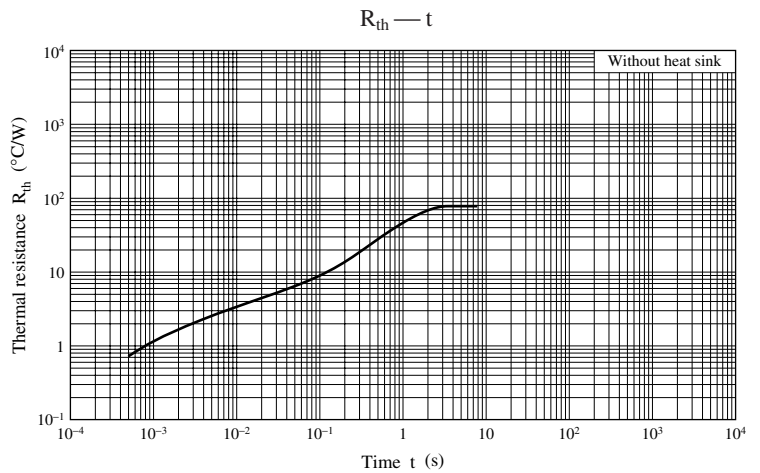
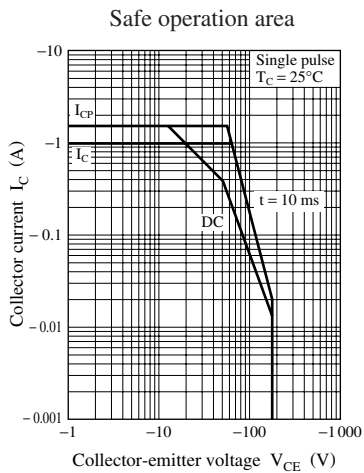
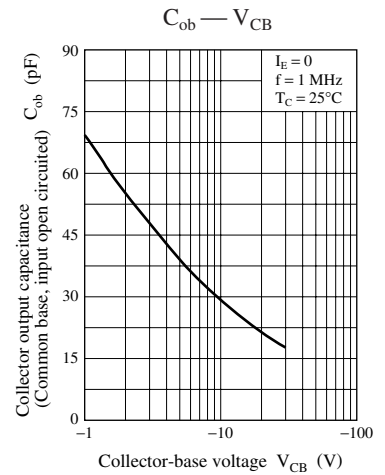
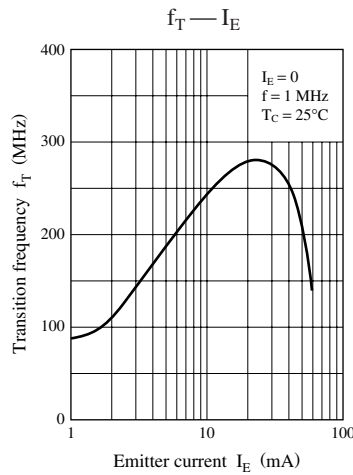
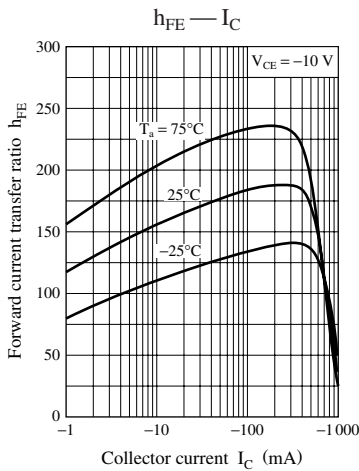
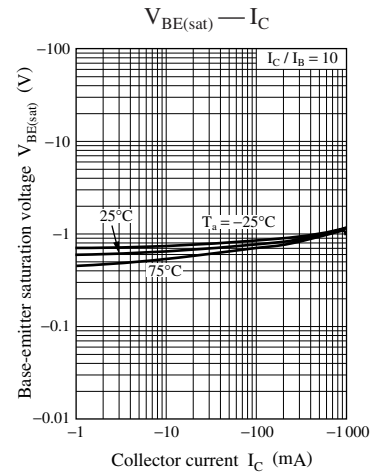
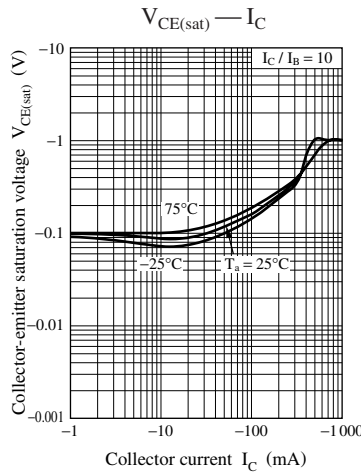
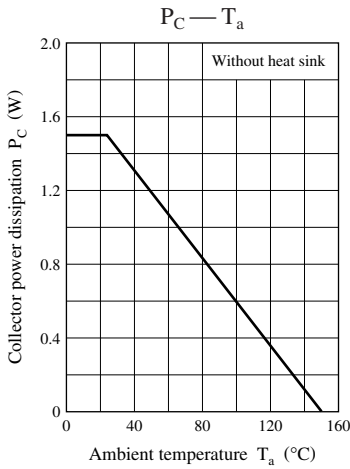
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = -100 \mu\text{A}, I_B = 0$	-150			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = -10 \mu\text{A}, I_C = 0$	-5			V
Forward current transfer ratio <sup>*1</sup>	$h_{FE1}$ <sup>*2</sup>	$V_{CE} = -10 \text{ V}, I_C = -150 \text{ mA}$	90		330	—
	$h_{FE2}$	$V_{CE} = -5 \text{ V}, I_C = -500 \text{ mA}$	50			
Collector-emitter saturation voltage <sup>*1</sup>	$V_{CE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$		-0.5	-2.0	V
Base-emitter saturation voltage <sup>*1</sup>	$V_{BE(sat)}$	$I_C = -500 \text{ mA}, I_B = -50 \text{ mA}$		-1.0	-2.0	V
Transition frequency	$f_T$	$V_{CB} = -10 \text{ V}, I_E = 50 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		30		pF

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

2. \*1: Pulse measurement

\*2: Rank classification

Rank	Q	R	S
$h_{FE1}$	90 to 155	130 to 220	185 to 330



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