

2SD1994A

Silicon NPN epitaxial planer type

For low-frequency power amplification and driver amplification
Complementary to 2SB1322A

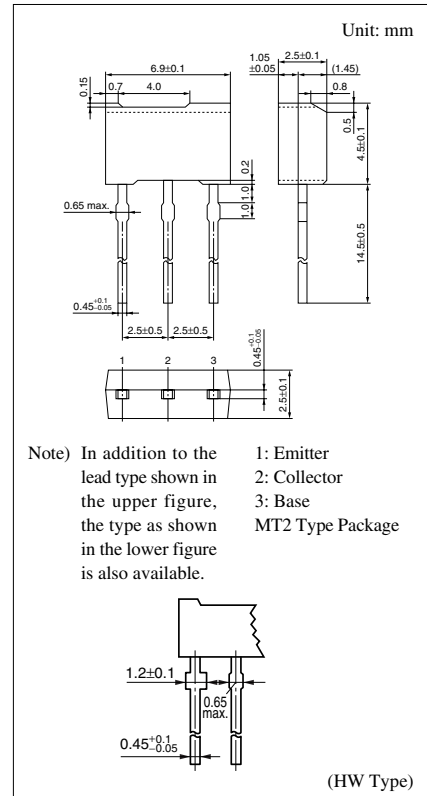
■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Output of 2 W to 3 W is obtained with a complementary pair with 2SB1322A
- Allowing supply with the radial taping

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	1	A
Collector power dissipation *	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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



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

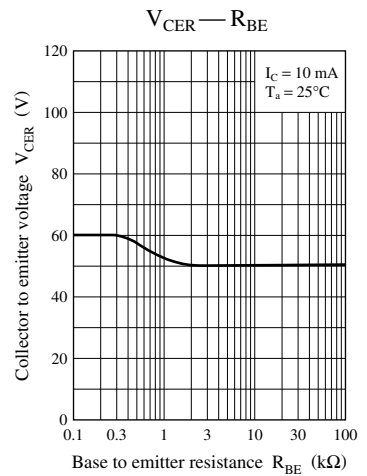
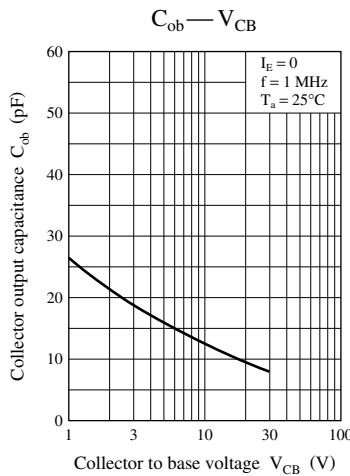
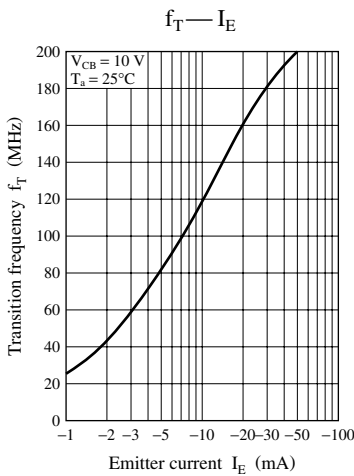
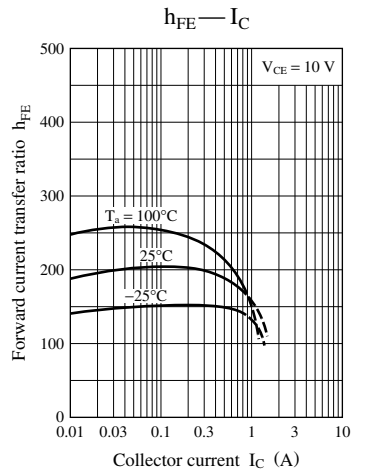
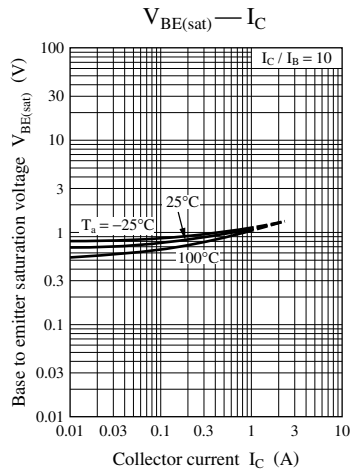
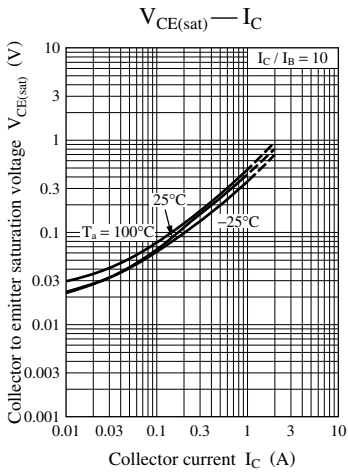
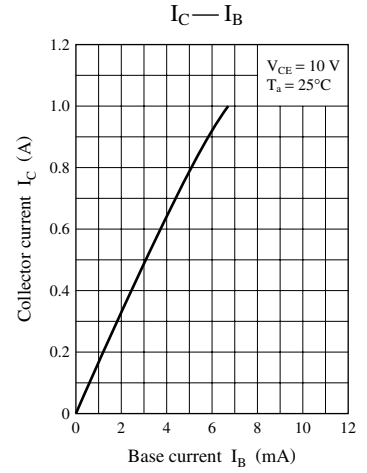
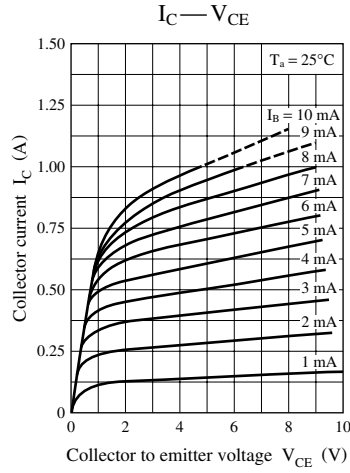
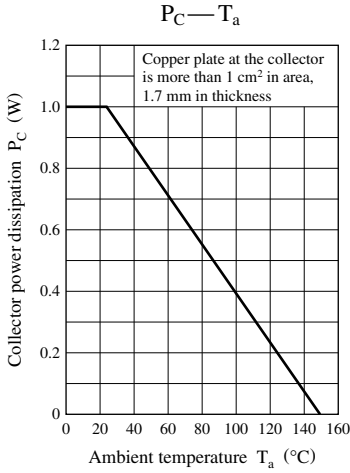
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$			0.1	μA
Collector to base voltage	V_{CBO}	$I_C = 10\ \mu\text{A}, I_E = 0$	60			V
Collector to emitter voltage	V_{CEO}	$I_C = 2\ \text{mA}, I_B = 0$	50			V
Emitter to base voltage	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = 10\ \text{V}, I_C = 500\ \text{mA}$	85		340	
	h_{FE2}	$V_{CE} = 5\ \text{V}, I_C = 1\ \text{A}$	50	100		
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 500\ \text{mA}, I_B = 50\ \text{mA}$		0.2	0.4	V
Base to emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 500\ \text{mA}, I_B = 50\ \text{mA}$		0.85	1.2	V
Transition frequency *1	f_T	$V_{CB} = 10\ \text{V}, I_E = -50\ \text{mA}, f = 200\ \text{MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}, I_E = 0, f = 1\ \text{MHz}$		11	20	pF

Note) *1: Pulse measurement

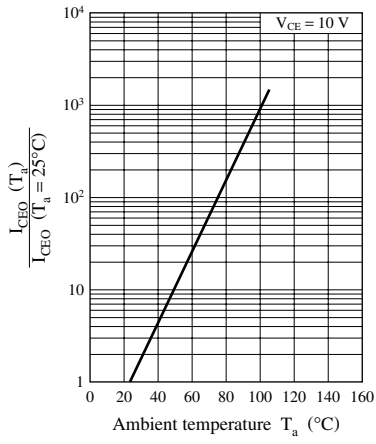
*2: Rank classification

Rank	Q	R	S	No-rank
h_{FE1}	85 to 170	120 to 240	170 to 340	85 to 340

Product of no-rank is not classified and have no indication for rank.



$I_{CEO} - T_a$



Area of safe operation (ASO)

