

# 2SD1994, 2SD1994A

## Silicon NPN Epitaxial Planar Type

For low-frequency power amplification and drive  
Complementary pair with 2SB1322 and 2SB1322A

### ■ Features

- Low collector-emitter saturation voltage  $V_{CE(sat)}$
- 2-3W output can be obtained in a complementary pair with 2SB1322 and 2SB1322A.
- Automatic insertion by radial taping possible

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

Item	Symbol	Value	Unit
Collector-Base Voltage	2SD1994	30	V
	2SD1994A	60	
Collector-Emitter Voltage	2SD1994	25	V
	2SD1994A	50	
Collector-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 ~ +150	$^\circ\text{C}$

\* Copper foil on PCB against Collector: 1.7mm thick, 1cm<sup>2</sup> in area

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

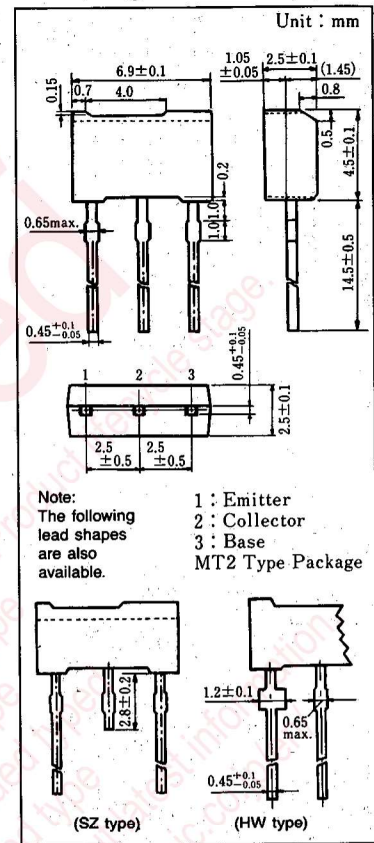
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0$			0.1	$\mu\text{A}$
Collector-Base Voltage	$V_{CBO}$	$I_C=10\mu\text{A}, I_E=0$	30			V
			60			
Collector-Emitter Voltage	$V_{CEO}$	$I_C=2\text{mA}, I_B=0$	25			V
			50			
Emitter-Base Voltage	$I_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
DC Current Gain	$h_{FE1}^{*1}$	$V_{CE}=10\text{V}, I_C=500\text{mA}^{*2}$	85	160	340	
	$h_{FE2}$	$V_{CE}=5\text{V}, I_B=1\text{A}^{*2}$	50	100		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}^{*2}$		0.2	0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}^{*2}$		0.85	1.2	V
Transition Frequency	$f_T$	$V_{CB}=10\text{V}, I_E=-50\text{mA}, f=200\text{MHz}$		200		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		11	20	pF

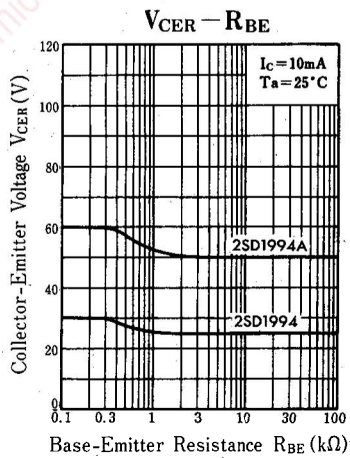
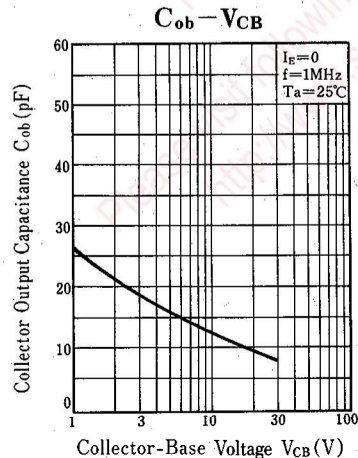
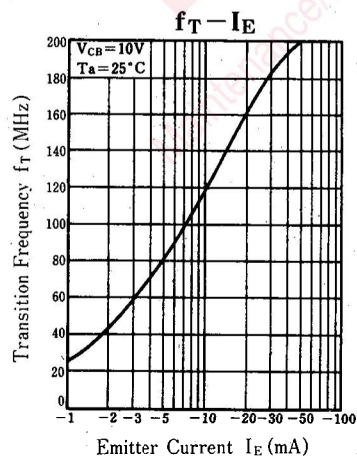
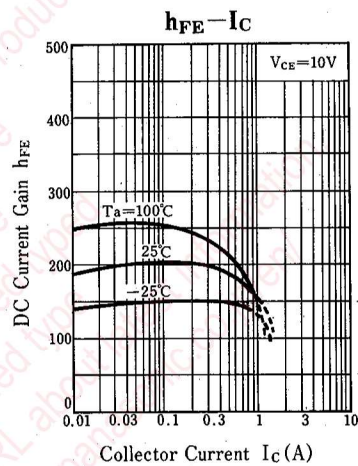
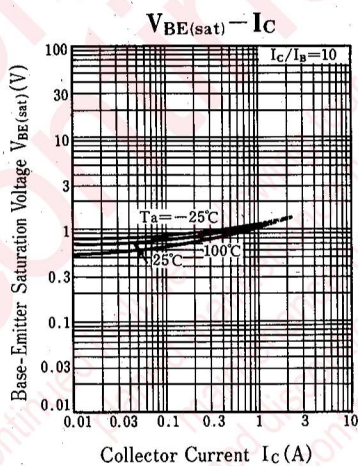
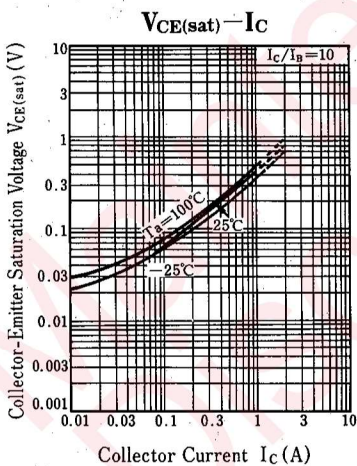
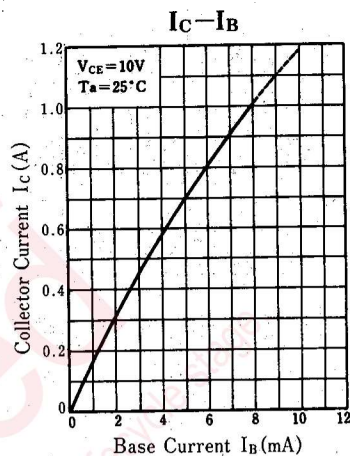
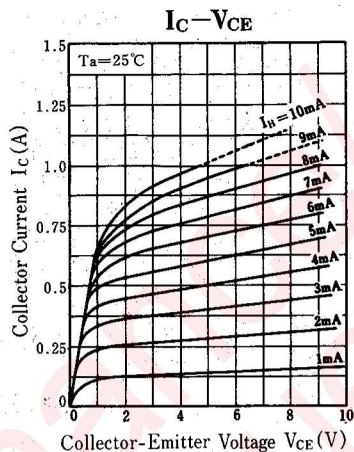
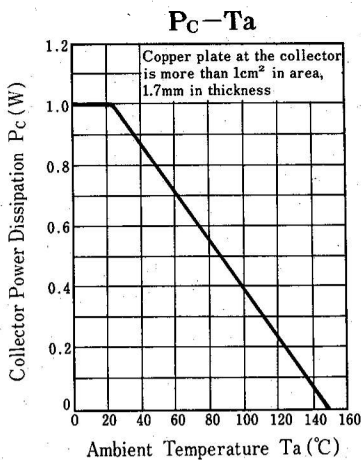
\*1  $h_{FE1}$  Ranking

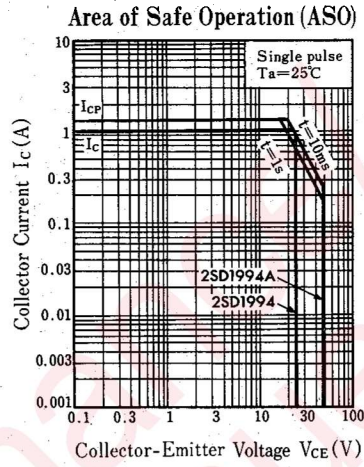
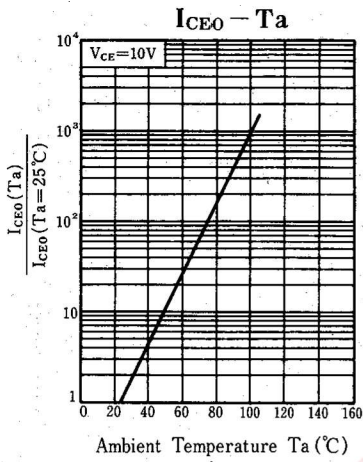
Rank	Q	R	S
$h_{FE1}$	85~170	120~240	170~340

\*2 Pulse Measurement

### ■ Package Dimensions







Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.

planned maintenance type

planned discontinued type

discontinued type

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