

## Description

- Audio power amplifier application

## Features

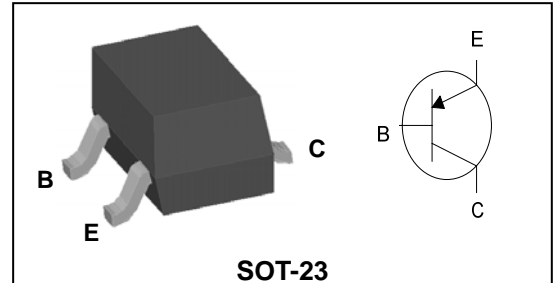
- High  $h_{FE}$  :  $h_{FE}=100\sim 320$
- Complementary pair with 2SC5344S

## Ordering Information

Type No.	Marking	Package Code
2SA1981S	EA □ □ ① ② ③	SOT-23

① Device Code ②  $h_{FE}$  Rank ③ Year&Week Code

## PIN Connection



## Absolute maximum ratings

( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CB0}$	-35	V
Collector-Emitter voltage	$V_{CE0}$	-30	V
Emitter-Base voltage	$V_{EB0}$	-5	V
Collector current	$I_C$	-800	mA
Collector dissipation	$P_C^*$	350	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

\* Package mounted on 99.5% alumina  $10\times 8\times 0.6\text{mm}$

## Electrical Characteristics

( $T_a=25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	$BV_{CB0}$	$I_C=-500\mu\text{A}$ , $I_E=0$	-35	-	-	V
Collector-Emitter breakdown voltage	$BV_{CE0}$	$I_C=-1\text{mA}$ , $I_B=0$	-30	-	-	V
Emitter-Base breakdown voltage	$BV_{EB0}$	$I_E=-50\mu\text{A}$ , $I_C=0$	-5	-	-	V
Collector cut-off current	$I_{CB0}$	$V_{CB}=-35\text{V}$ , $I_E=0$	-	-	-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EB0}$	$V_{EB}=-5\text{V}$ , $I_C=0$	-	-	-0.1	$\mu\text{A}$
DC current gain	$h_{FE}^*$	$V_{CE}=-1\text{V}$ , $I_C=-100\text{mA}$	100	-	320	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}$ , $I_B=-20\text{mA}$	-	-	-0.5	V
Transition frequency	$f_T$	$V_{CE}=-5\text{V}$ , $I_E=10\text{mA}$	-	120	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$	-	19	-	pF

\* :  $h_{FE}$  rank / O : 100~200, Y : 160~320

Electrical Characteristic Curves

Fig. 1 Pc-Ta

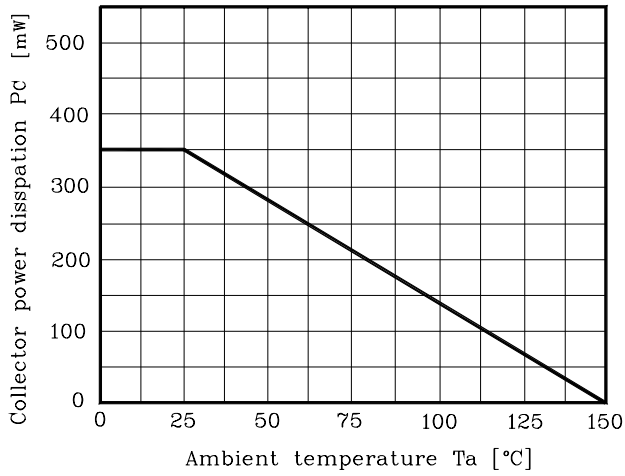


Fig. 2  $I_C - V_{BE}$

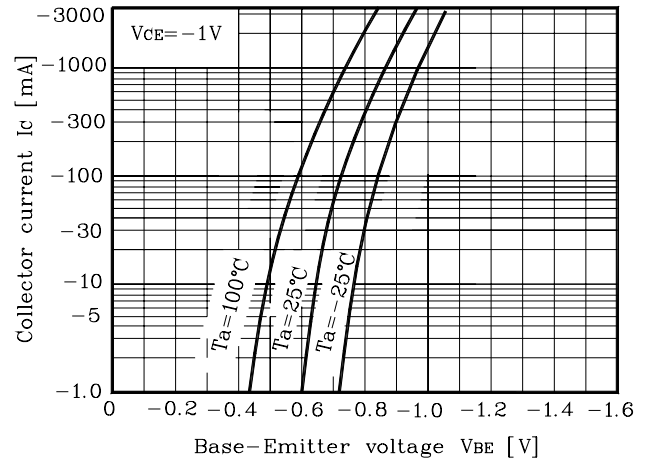


Fig. 3  $I_C - V_{CE}$

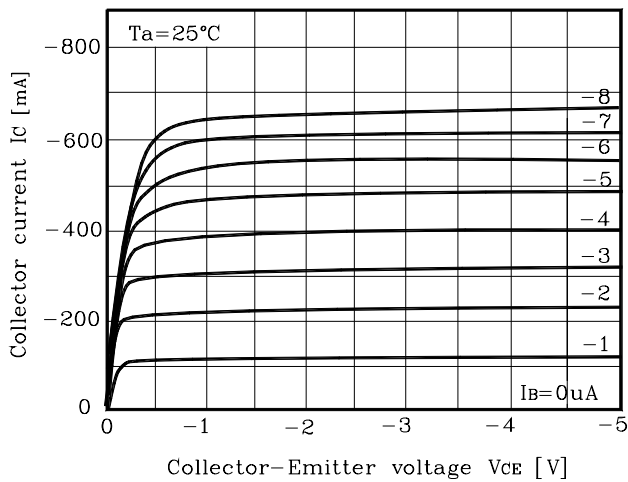


Fig. 4  $h_{FE} - I_C$

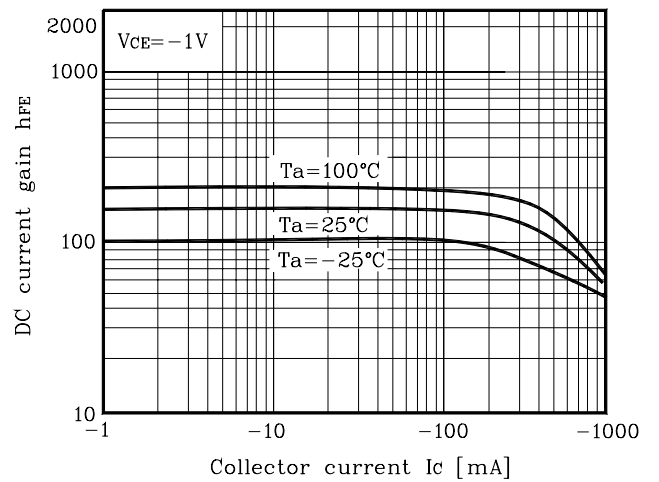
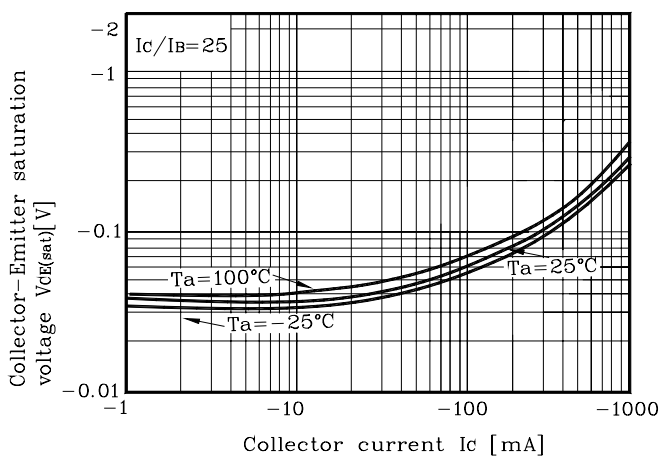
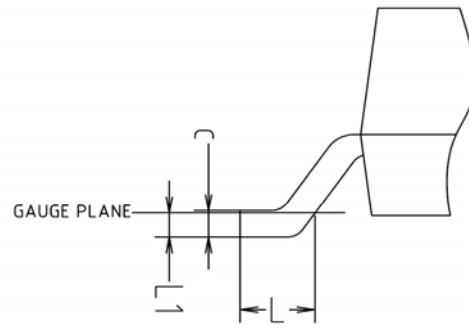
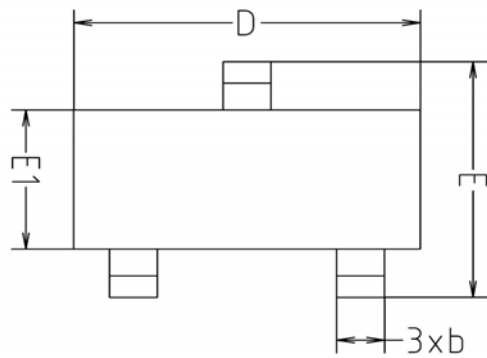


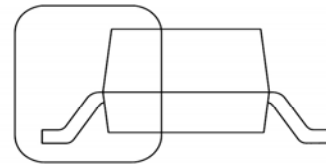
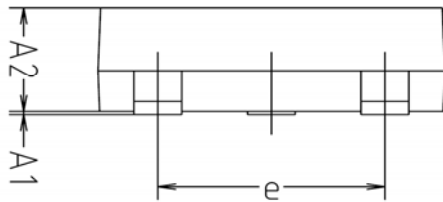
Fig. 5  $V_{CE(SAT)} - I_C$



## Outline Dimension



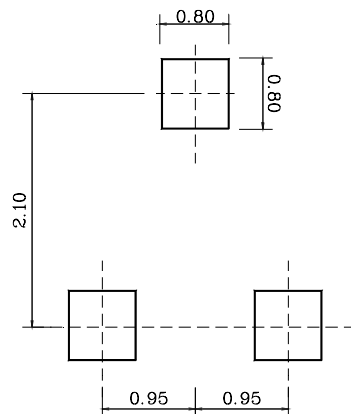
DETAIL 'A'



SEE DETAIL 'A'

SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.82	-	1.02	
b	0.39	0.42	0.45	
c	0.09	0.12	0.15	
D	2.80	2.90	3.00	
E	2.20	2.40	2.60	
E1	1.20	1.30	1.40	
e	1.90BSC			
L	0.20	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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