

**PNP Silicon Transistor** 

 $(T_{0}-25^{\circ}C)$ 

(Ta=25°C)

### Description

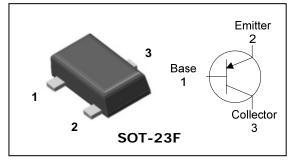
• General small signal amplifier

### Features

- Low collector saturation voltage : 0.21/(Max)
- $V_{CE(sat)} = -0.3V(Max.)$
- Low output capacitance :  $C_{ob}$ =4pF(Typ.)
- Complementary pair with 2SC5343SF

## **Ordering Information**

### **PIN Connection**



2SA1980SF	<u>CA</u> <u> </u>	SOT-23F

 $\textcircled{\label{eq:local_state} 0} \\ \hline \texttt{O} \texttt{Device Code} \ \textcircled{\sc observe} \mathsf{PE} \ \texttt{Rank} \ \textcircled{\sc observe} \mathsf{Year} \And \texttt{Week Code} \\ \hline \texttt{O} \texttt{PE} \ \texttt{Code} \ \fbox{\sc observe} \mathsf{Code} \ \r{\sc observe} \mathsf{$ 

### Absolute maximum ratings

Absolute maximum ratings	(1a=25 C)		
Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-Base voltage	V <sub>EBO</sub>	-5	V
Collector current	Ι <sub>c</sub>	-150	mA
Collector dissipation	Pc	200	mW
Junction temperature	Tj	150	°C
Storage temperature	T <sub>stg</sub>	-55~150	٥°

## **Electrical Characteristics**

Characteristic	Symbol Test Condition		Min.	Тур.	Max.	Unit
Collector-Base breakdown voltage	BV <sub>CBO</sub>	$I_{C}$ =-100 $\mu$ A, $I_{E}$ =0	-50	-	-	V
Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	$I_{C}$ =-1mA, $I_{B}$ =0	-50	-	-	V
Emitter-Base breakdown voltage	BV <sub>EBO</sub>	$I_{E}$ =-10 $\mu$ A, $I_{C}$ =0	-5	-	-	V
Collector cut-off current	I <sub>CBO</sub>	$V_{CB}$ =-50V, $I_{E}$ =0	-	-	-0.1	μΑ
Emitter cut-off current	I <sub>EBO</sub>	$V_{EB} = -5V, I_{C} = 0$	-	-	-0.1	μΑ
DC current gain	h <sub>FE</sub> *	$V_{CE}$ =-6V, $I_{C}$ =-2mA	70	-	700	-
Collector-Emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA	-	-	-0.3	V
Transition frequency	f <sub>T</sub>	$V_{CE}$ =-10V, $I_{C}$ =-1mA	80	-	-	MHz
Collector output capacitance	C <sub>ob</sub>	$V_{CB}$ =-10V, $I_{E}$ =0, f=1MHz	-	4	7	pF
Noise figure	NF	$V_{CE}$ =-6V, $I_{C}$ =-0.1mA f=1KHz, Rg=10K $\Omega$	-	-	10	dB

\*:  $h_{FE}$  rank / O : 70~140, Y : 120~240, G : 200~400, L : 300~700.

## **Electrical Characteristic Curves**

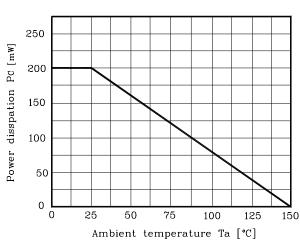


Fig. 3 I<sub>C</sub>.V<sub>CE</sub>

Fig. 1 P<sub>C</sub>-T<sub>a</sub>

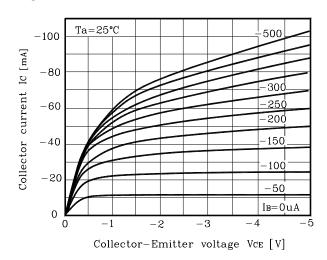


Fig. 5 V<sub>CE(sat)</sub>-I<sub>C</sub>

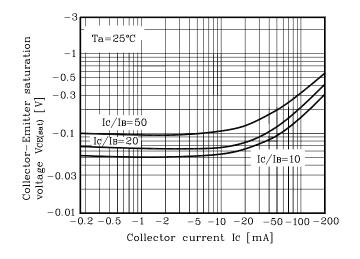
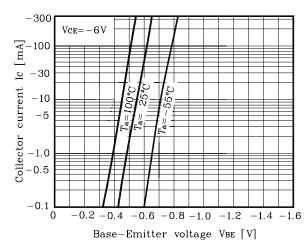
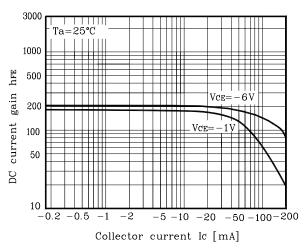


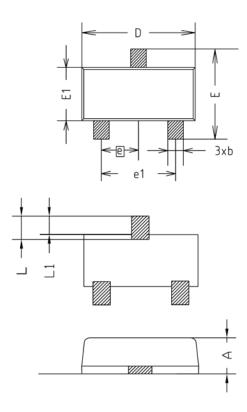
Fig. 2 I<sub>C</sub>.V<sub>BE</sub>

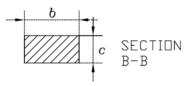


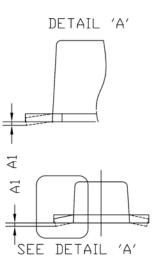




## **Outline Dimension**

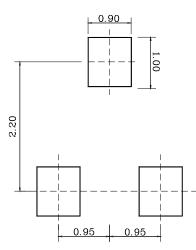






SYMBOL	MILLIMETER(mm)			NOTE	
STRUC	MINIMUM	NOMINAL	MAXIMUM	NUTE	
A	0.80	0.90	1.00		
A1	0.00	-	0.10		
b	0.35	0.40	0.45		
С	0.10	0.15	0.20		
D	2.80	2.90	3.00		
E	2.30	2.40	2.50		
E1	1.50	1.60	1.70		
e	0.95BSC				
e1	1.80	1.90	2.00		
L	0.48	0.58	0.68		
L1	0.30	-	0.50		

#### \*Recommend PCB solder land [Unit: mm]



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