

# 2SA1980SF

**PNP Silicon Transistor** 

### **Description**

• General small signal amplifier

#### **Features**

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

### **Ordering Information**

Type NO.	Marking	Package Code	
2SA1980SF	CA	SOT-23F	

 $\square$ : h<sub>FE</sub> rank **Outline Dimensions** unit: mm 2.3~2.5 1.5~1.7 1 1.90 BSC 2.8~3.0 3 2  $0.1 \sim 0.2$ **PIN Connections** 1. Base 2. Emitter 3. Collector

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# 2SA1980SF

Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	$V_{CBO}$	-50	V
Collector-Emitter voltage	$V_{CEO}$	-50	V
Emitter-Base voltage	$V_{EBO}$	-5	V
Collector current	$I_{C}$	-150	mA
Collector dissipation	P <sub>C</sub>	200	mW
Junction temperature	$T_{j}$	150	°C
Storage temperature	$T_{stg}$	-55~150	°C

## **Electrical Characteristics**

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	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	$I_{CBO}$	$V_{CB}$ =-50V, $I_{E}$ =0	-	-	-0.1	μΑ
Emitter cut-off current	$I_{EBO}$	V <sub>EB</sub> =-5V, I <sub>C</sub> =0	-	-	-0.1	μΑ
DC current gain	h <sub>FE</sub> *	$V_{CE}$ =-6V, $I_{C}$ =-2mA	70	-	700	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	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

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

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### **Electrical Characteristic Curves**

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

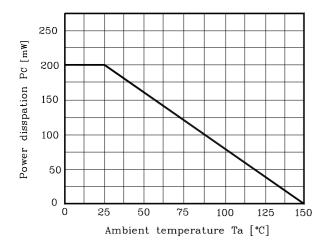


Fig. 3  $I_{\text{C-V}_{\text{CE}}}$ 

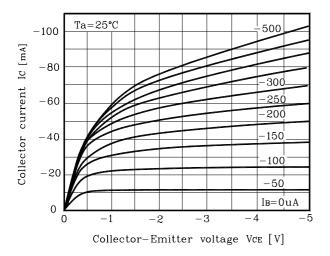


Fig. 5  $V_{CE(sat)}$ - $I_{C}$ 

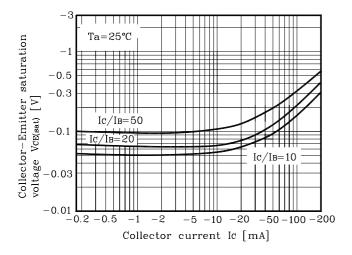


Fig. 2  $I_{\text{C-}}V_{\text{BE}}$ 

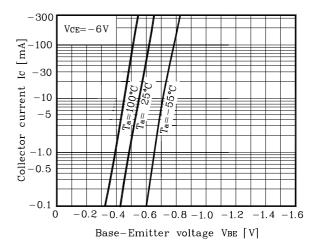
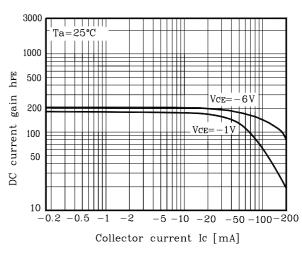


Fig. 4 h<sub>FE</sub>-I<sub>C</sub>



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