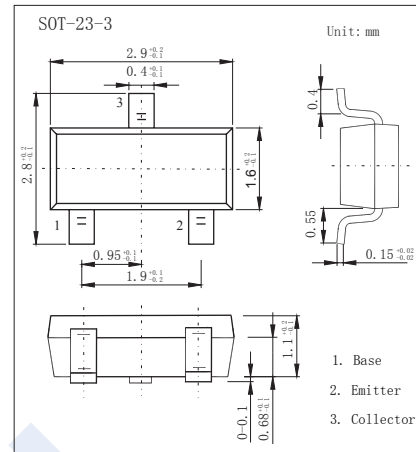


## PNP Transistors

### 2SA1981SF-HF

#### ■ Features

- High  $h_{FE}$ :  $h_{FE}=100$  to 320
- Complementary pair with 2SC5344SF-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-35	V
Collector-emitter voltage	$V_{CEO}$	-30	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-800	mA
Collector dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C = -500 \mu\text{A}$ , $I_E = 0$	-35			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C = -1 \text{ mA}$ , $I_B = 0$	-30			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = -100 \mu\text{A}$ , $I_C = 0$	-5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -35 \text{ V}$ , $I_E = 0$			-100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5 \text{ V}$ , $I_C = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500 \text{ mA}$ , $I_B = -20 \text{ mA}$			-0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500 \text{ mA}$ , $I_B = -20 \text{ mA}$			-1.2	
DC current gain	$h_{FE}$	$V_{CE} = -1 \text{ V}$ , $I_C = -100 \text{ mA}$	100		320	
Output capacitance	$C_{ob}$	$V_{CE} = -10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$		19		pF
Transition frequency	$f_T$	$V_{CE} = -5 \text{ V}$ , $I_E = -10 \text{ mA}$		120		MHz

#### ■ Classification of $h_{FE(1)}$

Type	2SA1981SF-O-HF	2SA1981SF-Y-HF
Range	100-200	160-320
Marking	EAO* <sub>F</sub>	EAY* <sub>F</sub>

# PNP Transistors

## 2SA1981SF-HF

■ Typical Characteristics

Fig. 1  $P_c$ - $T_a$

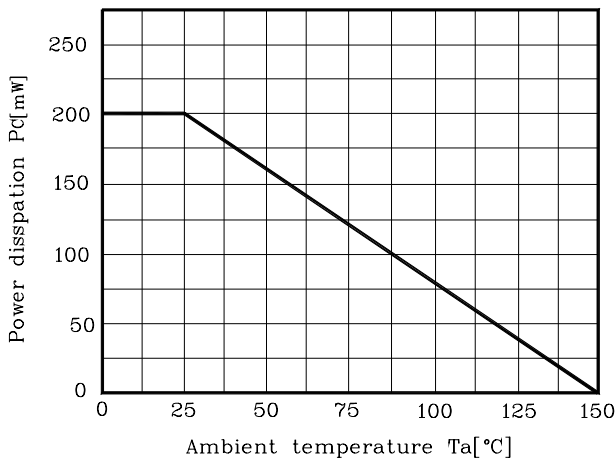


Fig. 2  $I_C$  -  $V_{BE}$

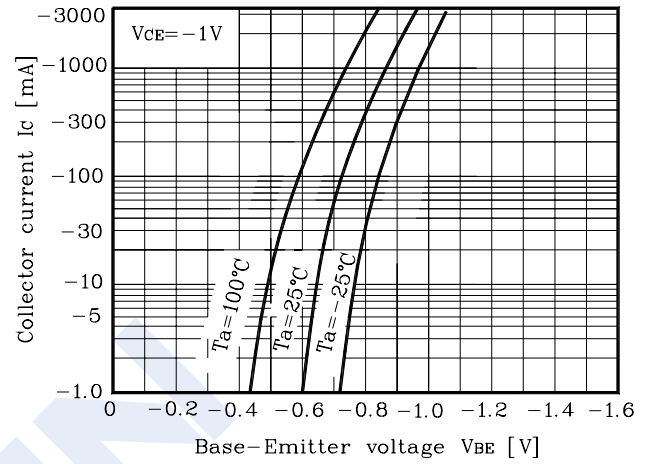


Fig. 3  $I_C$  -  $V_{CE}$

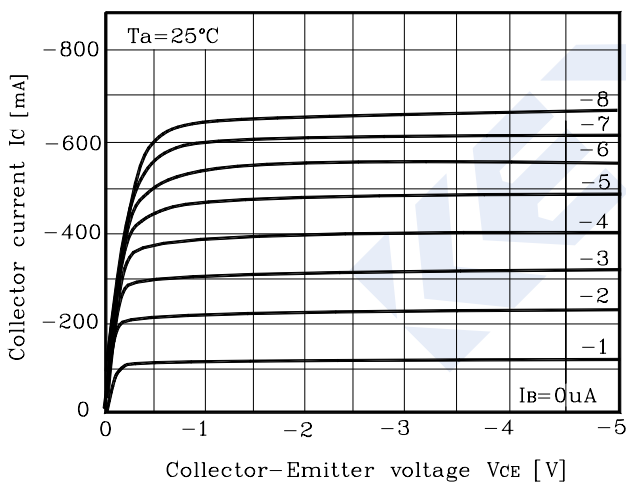


Fig. 4  $h_{FE}$  -  $I_C$

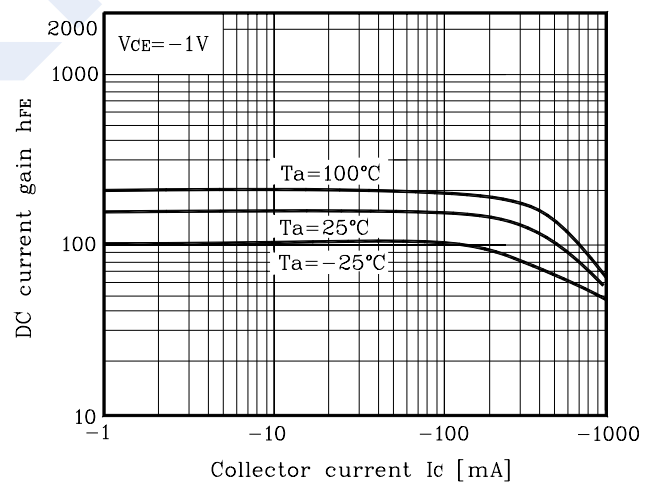


Fig. 5  $V_{CE(SAT)}$  -  $I_C$

