

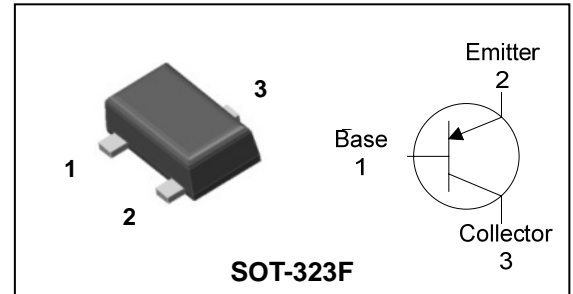
## Description

- General small signal amplifier

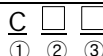
## Features

- Low collector saturation voltage :  
 $V_{CE(sat)} = -0.3V(\text{Max.})$
- Low output capacitance :  $C_{ob} = 4pF(\text{Typ.})$
- Complementary pair with 2SC5343UF

## PIN Connection



## Ordering Information

Type NO.	Marking	Package Code
2SA1980UF		SOT-323F

① Device Code ② hFE Rank ③ Year&Week Code

## Absolute Maximum Ratings

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

Characteristic	Symbol	Rating	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 power dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

## Electrical Characteristics

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

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = -1\text{mA}, I_B = 0$	-50	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50\text{V}, I_E = 0$	-	-	-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-0.1	$\mu\text{A}$
DC current gain	$h_{FE}^*$	$V_{CE} = -6\text{V}, I_C = -2\text{mA}$	70	-	700	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$	-	-	-0.3	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	-	80	-	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	7	-	pF
Noise figure	NF	$V_{CE} = -6\text{V}, I_C = -0.1\text{mA}$ $f = 1\text{KHz}, R_g = 10\text{K}\Omega$	-	10	-	dB

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

Electrical Characteristic Curves

Fig. 1  $P_C - T_a$

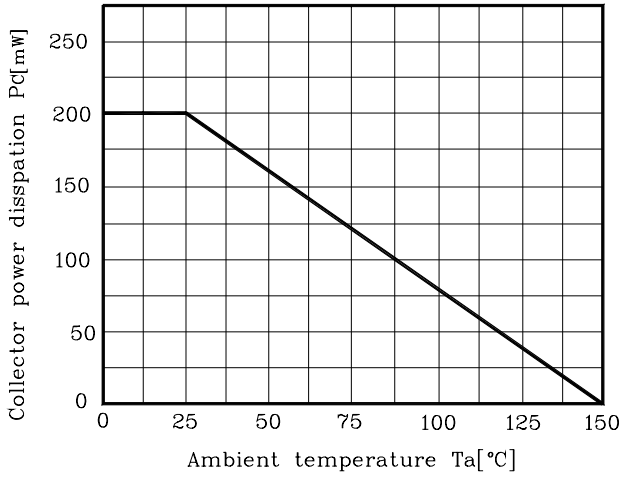


Fig. 2  $I_C - V_{BE}$

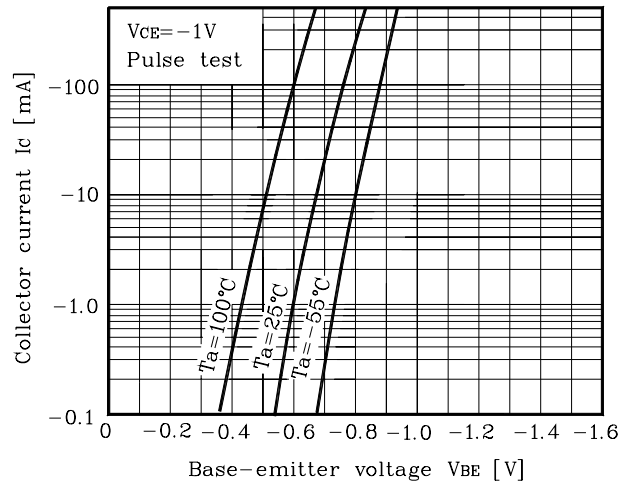


Fig. 3  $I_C - V_{CE}$

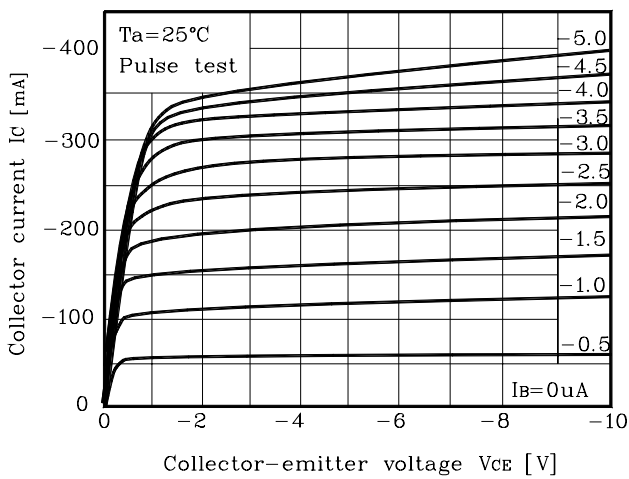


Fig. 4  $h_{FE} - I_C$

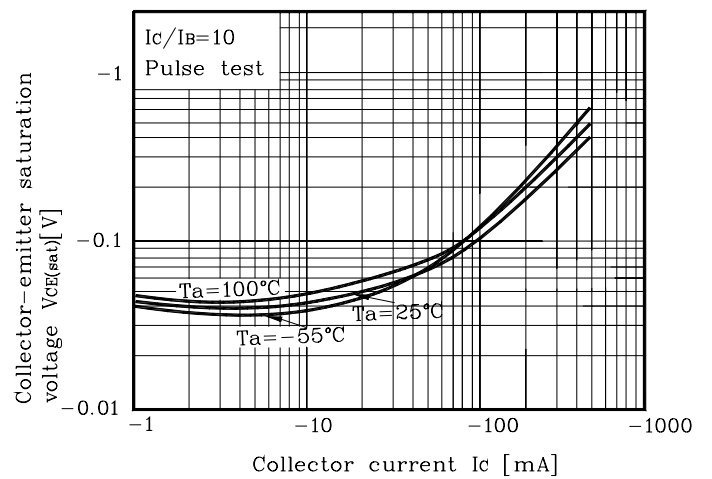
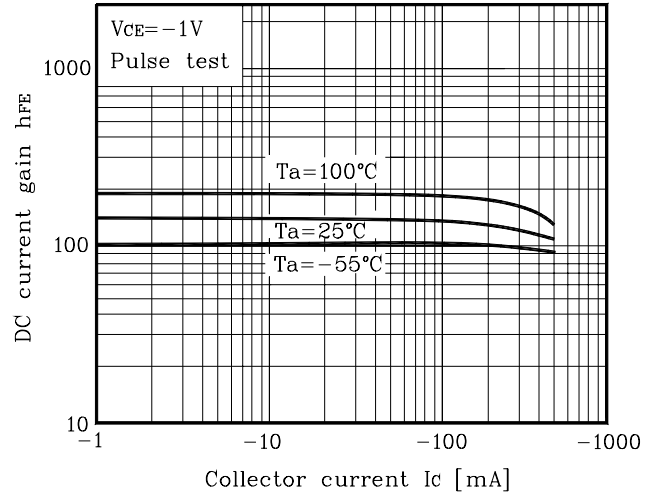
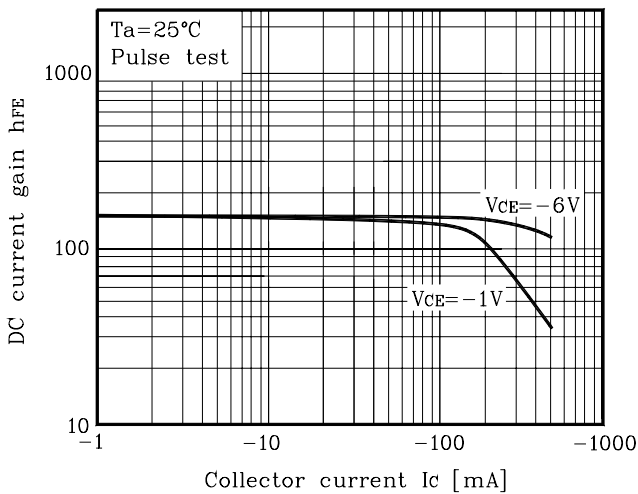
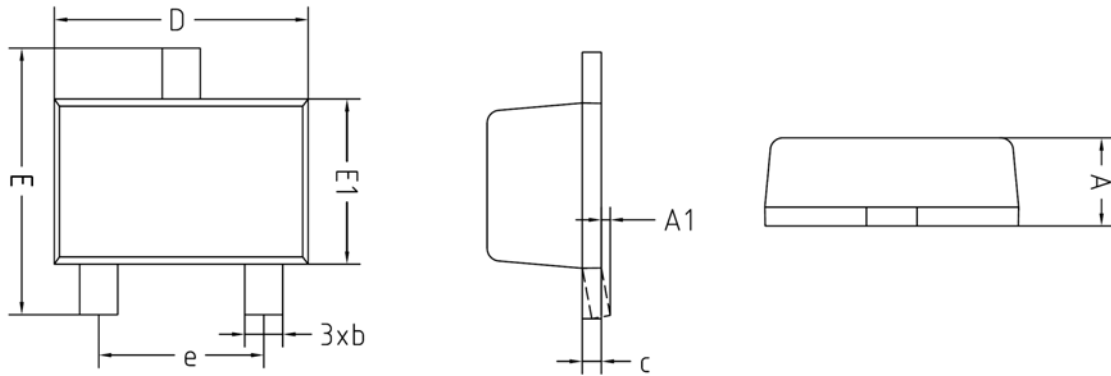


Fig. 5  $V_{CE(sat)} - I_C$

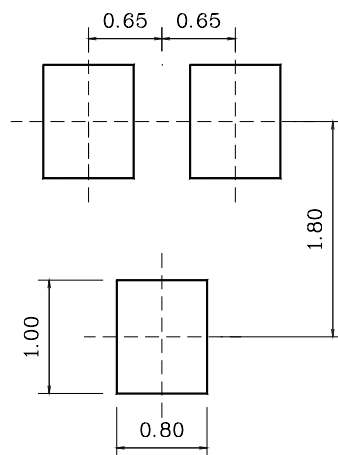


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.60	-	0.80	
A1	0.00	-	0.10	
b	0.30	-	0.40	
c	0.08	-	0.16	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.20	1.30	1.40	
e	1.30BSC			

※Recommend PCB solder land [Unit: mm]



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