

Description

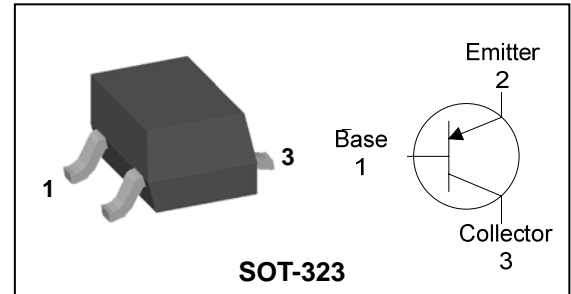
- General small signal amplifier

Features

- Low collector saturation voltage :
 $V_{CE(sat)} = -0.3V(\text{Max.})$
- Low output capacitance : $C_{ob} = 4pF(\text{Typ.})$
- Complementary pair with 2SC5343U

Ordering Information

PIN Connection



SOT-323

Type NO.

Marking

Package Code

2SA1980U

 C □ □
 ① ② ③

SOT-323

① Device Code ② hFE Rank ③ Year&Week Code

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	$P_{C(J-A)}$	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ 150	°C

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-ambient	$R_{th(J-A)}$	-	625.0	°C/W

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-50	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-50	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V, I_E = 0$	-	-	-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$	-	-	-0.1	μA
DC current gain	h_{FE}^*	$V_{CE} = -6V, I_C = -2mA$	70	-	700	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100mA, I_B = -10mA$	-	-	-0.3	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -1mA$	80	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	4	7	pF
Noise figure	NF	$V_{CE} = -6V, I_C = -0.1mA$ $f = 1KHz, R_g = 10K\Omega$	-	-	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

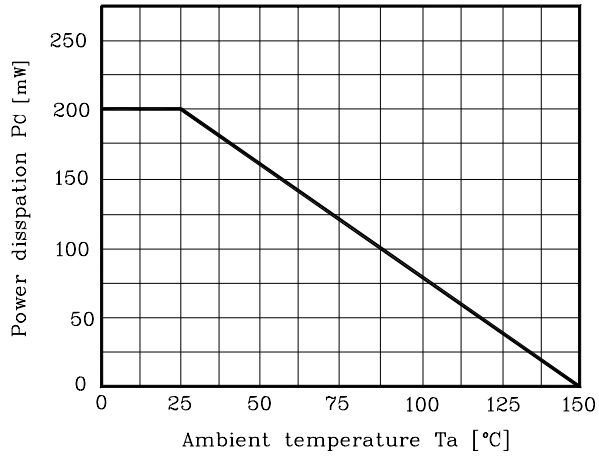


Fig. 2 I_C - V_{BE}

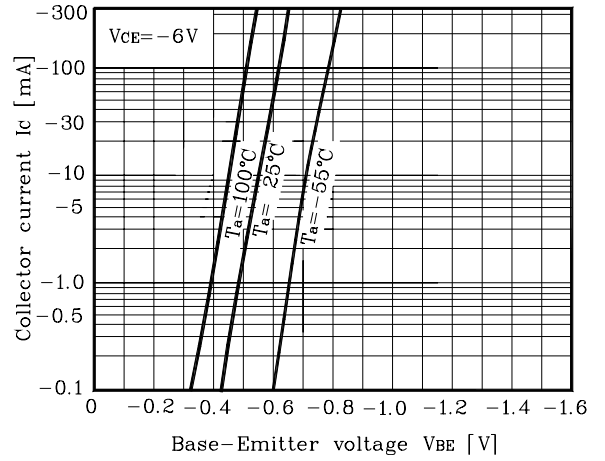


Fig. 3 I_C - V_{CE}

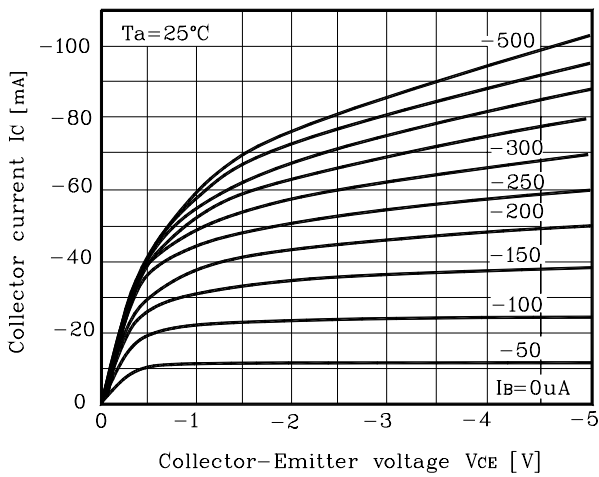


Fig. 4 h_{FE} - I_C

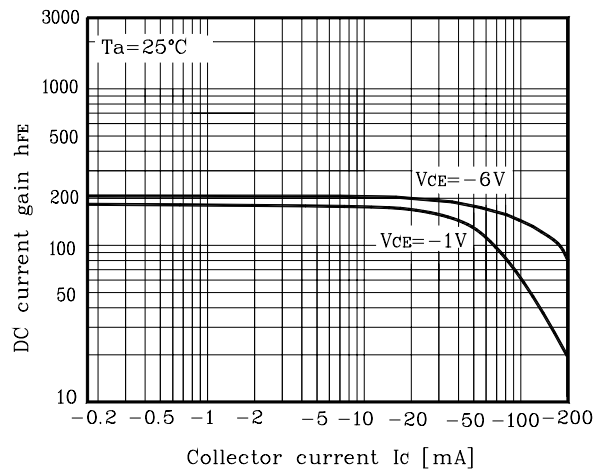
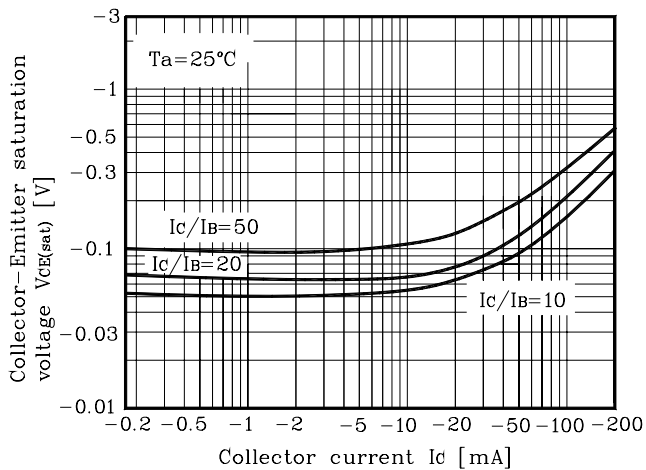
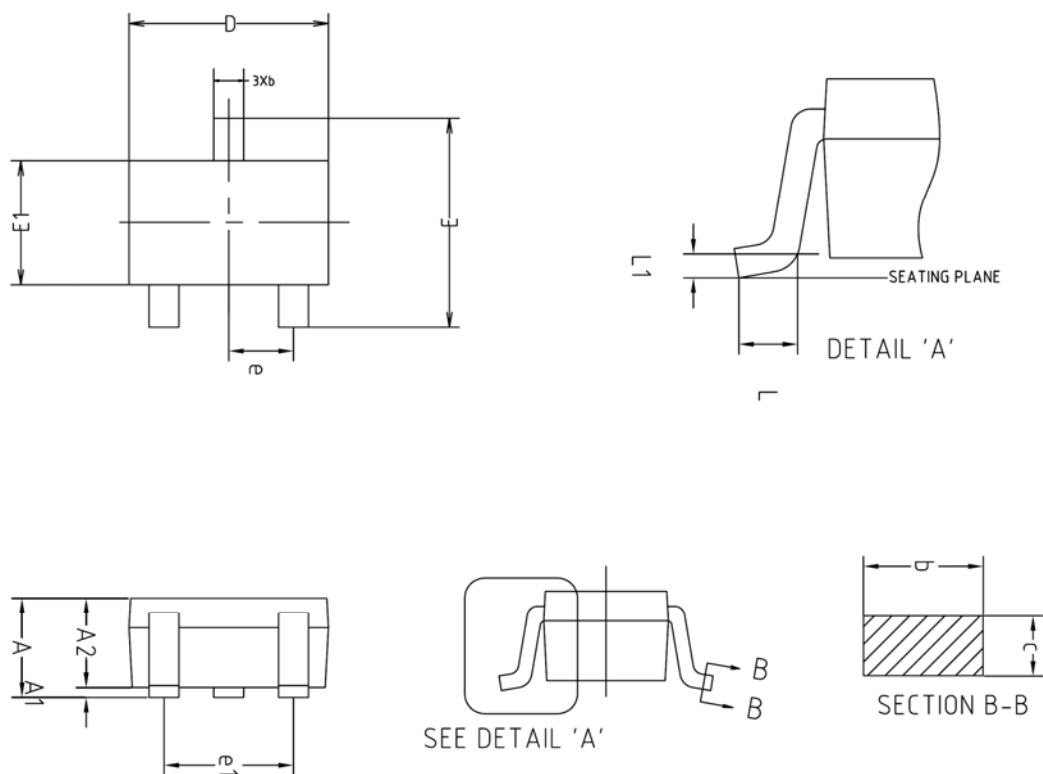


Fig. 5 $V_{CE(sat)}$ - I_C

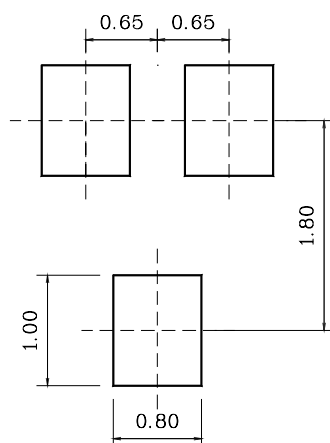


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.90	-	1.25	
A1	0.00	-	0.10	
A2	0.85	0.90	0.95	
b	0.30	-	0.40	
c	0.10	-	0.25	
D	1.90	2.00	2.10	
E	1.95	2.10	2.25	
E1	1.15	1.25	1.35	
e	0.65BSC			
e1	1.20	-	1.40	
L	0.10	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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