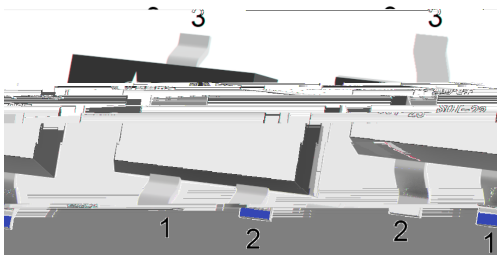
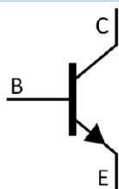


Silicon NPN transistor in a SOT-23 Plastic Package.

Low $V_{CE(sat)}$, low output capacitance, complementary pair with 2SA1980S,HF Product.

General small signal amplifier applications.



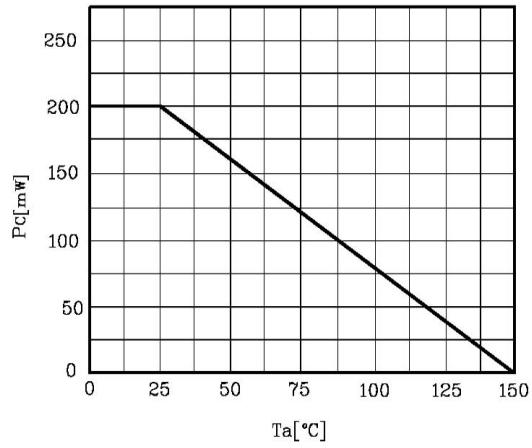
PIN1 Base PIN 2 Emitter PIN 3 Collector

h_{FE} Classifications Symbol	O	Y	G	L
h_{FE} Range	70 140	120 240	200 400	300 700
Marking	HDAO	HDAY	HDAG	HDAL

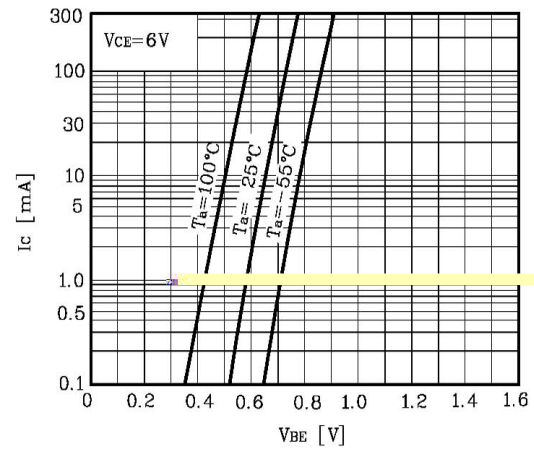
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	150	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=50\text{ A}$ $I_E=0$	50			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	50			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\text{ A}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}$ $I_E=0$			0.5	A
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0\text{V}$ $I_C=0$			0.5	A
DC Current Gain	h_{FE}	$V_{CE}=6.0\text{V}$ $I_C=1.0\text{mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}$ $I_B=5.0\text{mA}$			0.4	V
Transition Frequency	f_T	$V_{CE}=12\text{V}$ $I_C=2.0\text{mA}$		180		MHz
Collector output capacitance	C_{ob}	$V_{CB}=12\text{V}$ $I_E=0$ $f=1.0\text{MHz}$		2.0		pF
Noise figure	NF	$V_{CE}=6.0\text{V}$ $I_C=0.1\text{mA}$ $f=1.0\text{KHz}$ $R_g=10\text{K}$		1.0	10	dB

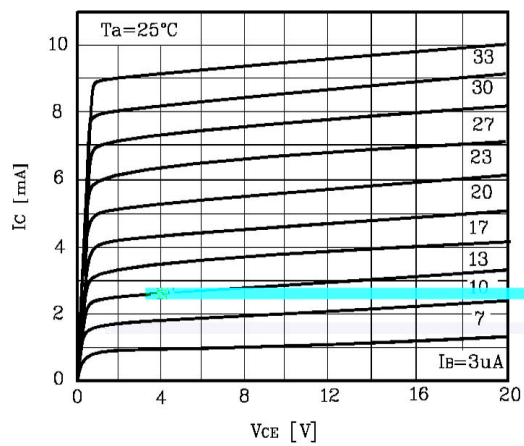
PC - Ta



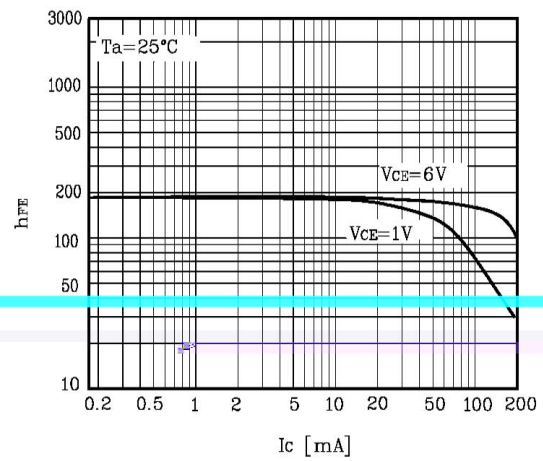
IC - VBE



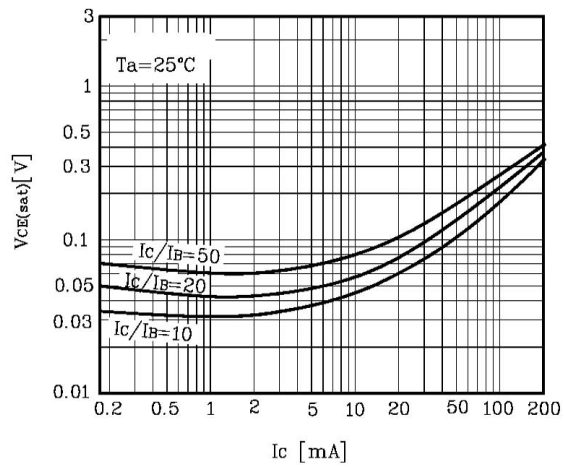
IC - VCE



hFE - IC

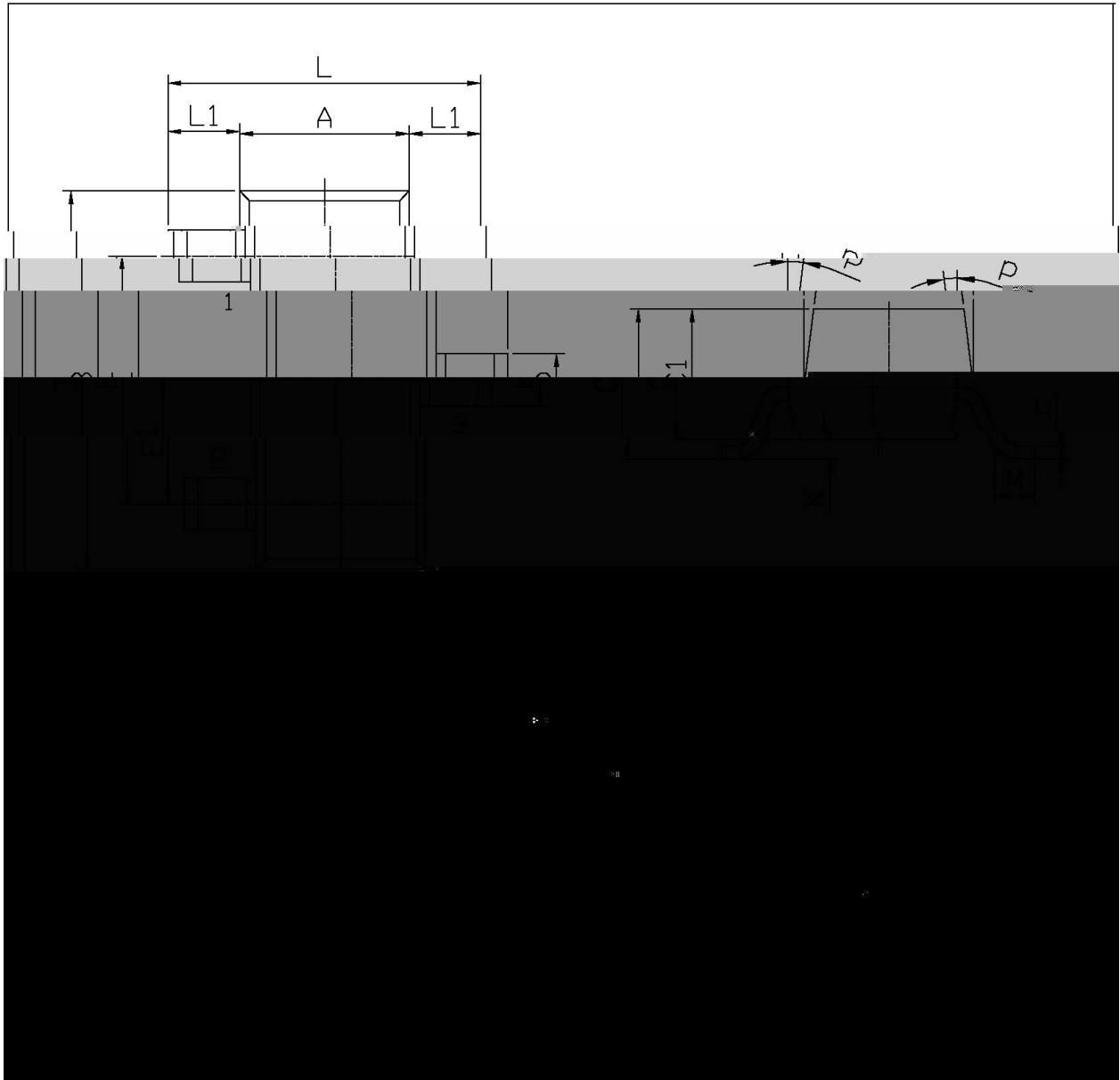


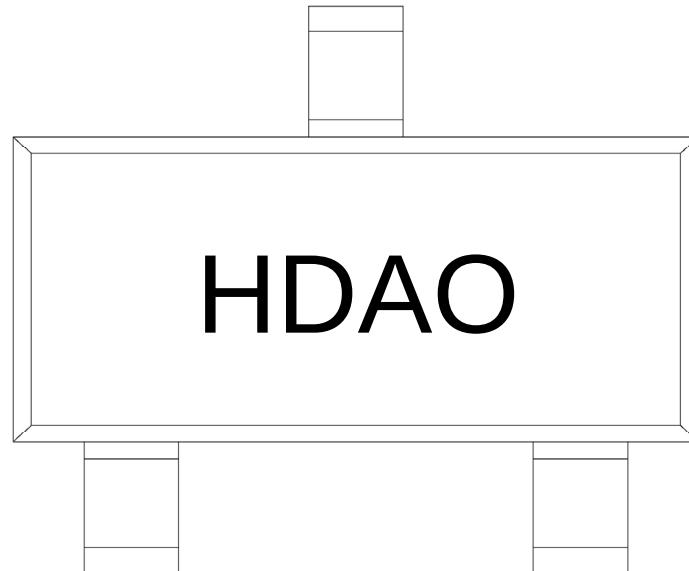
VCE(sat) - IC



SOT-23

单位: mm





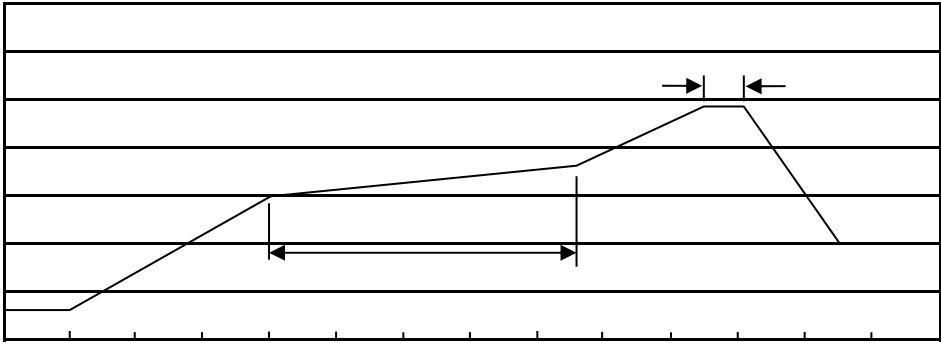
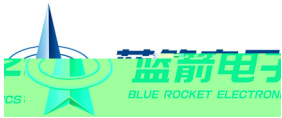
h_{FE}

Note:

Company Code

Product Type Code

h_{FE} Classifications Symbol Code



- 1

150 180

60 90sec;
- 2

245 5

5 0.5sec;
- 3

2 10 /sec.
- Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245 5 , Duration:5 0.5sec.

3. Cooling Speed: 2~10 /sec.

260 5

10 1 sec.

Temp.:260±5

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205