

/ Descriptions

Silicon NPN transistor in a SOT-323 Plastic Package.

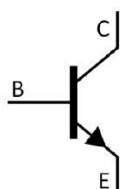
/ Features

High f_T , small $C_{C.rbb'}$ and high gain, small NF.

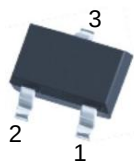
/ Applications

High-Frequency amplifier transistor

/ Equivalent Circuit



/ Pinning



PIN1 Emitter PIN 2 Base PIN 3 Collector

/ Marking

h_{FE} Classifications	N	P
Symbol		
h_{FE} Range	56 120	82 180
Marking	1DHN	1DHP

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	20	V
Collector to Emitter Voltage	V_{CEO}	11	V
Emitter to Base Voltage	V_{EBO}	3.0	V
Collector Current - Continuous	I_C	50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

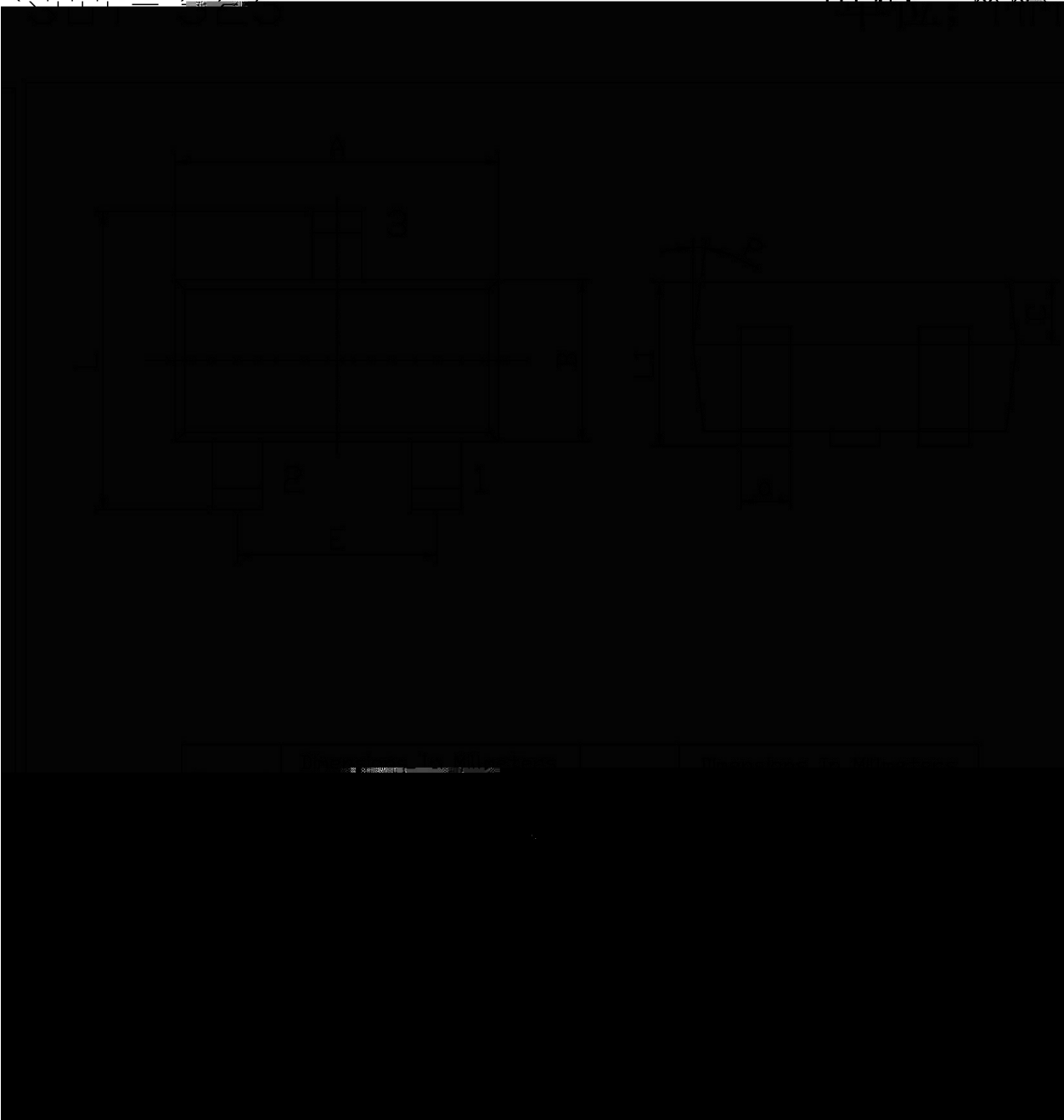
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\text{ A}$ $I_E=0$	20			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	11			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\text{ A}$ $I_C=0$	3.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10\text{V}$ $I_E=0$			0.5	A
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=2.0\text{V}$ $I_C=0$			0.5	A
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$ $I_C=5.0\text{mA}$	56		180	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$ $I_B=5.0\text{mA}$			0.5	V
Transition Frequency	f_T	$V_{CE}=10\text{V}$ $I_E=10\text{mA}$ $f=500\text{MHz}$	1.4	3.2		GHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $I_E=0\text{mA}$ $f=1.0\text{MHz}$		0.8	1.5	pF
Collector-Base Time Constant	$C_{C.rbb'}$	$V_{CB}=10\text{V}$ $I_C=10\text{mA}$ $f=31.8\text{MHz}$		4.0	12	pS
Noise Factor	NF	$V_{CE}=6\text{V}$ $I_C=2\text{mA}$ $f=500\text{MHz}$ $R_g=50$		3.5		dB

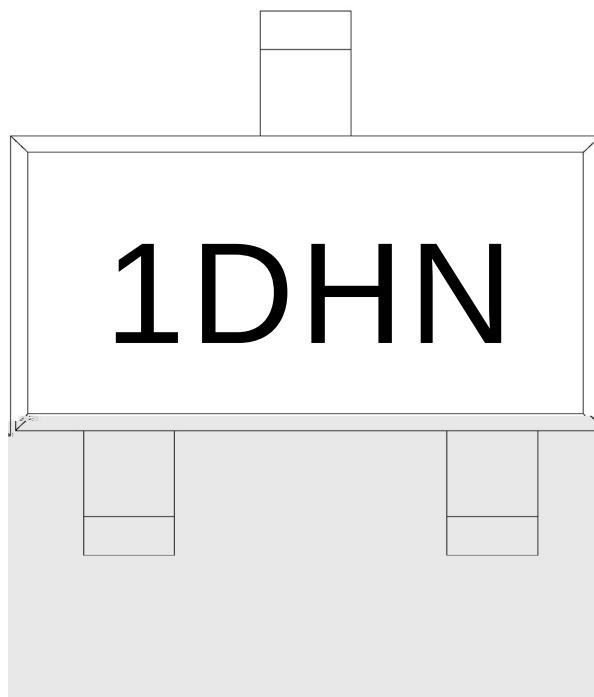
/ Package Dimensions

SOT-223

单位: mm



/ Marking Instructions



1D

H

N h_{FE}

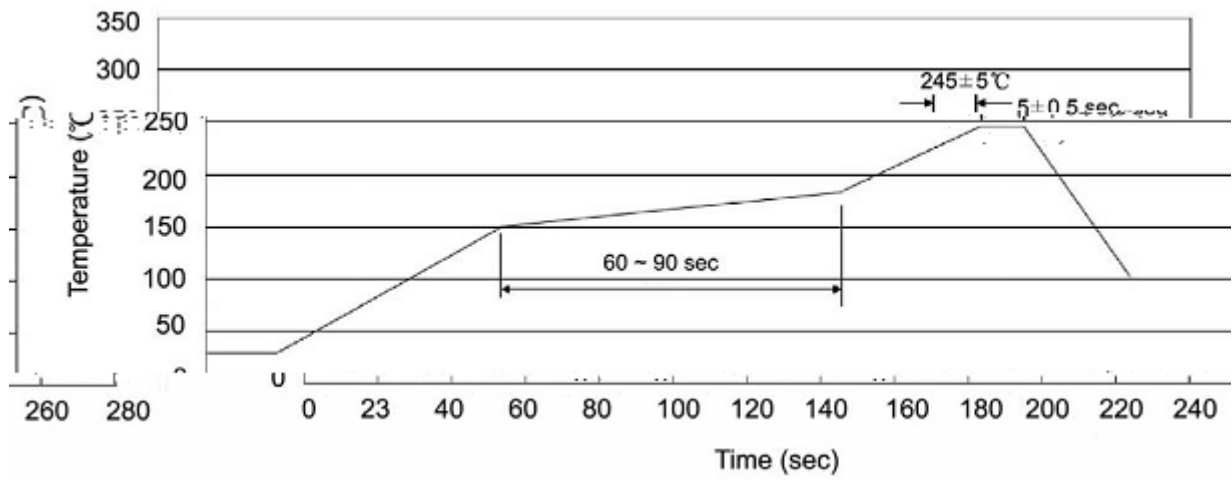
Note:

1D: Product Type.

H: Company Code.

N: h_{FE} Classifications Symbol

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Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-323	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices