

/ Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

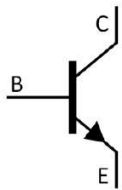
/ Features

Low C_{ob} .

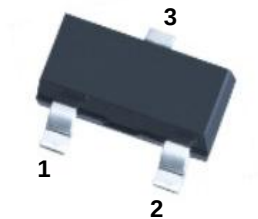
/ Applications

High-frequency amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	N	P	Q
h_{FE} Range	56 120	82 180	120 270
Marking	HAN	HAP	HAQ

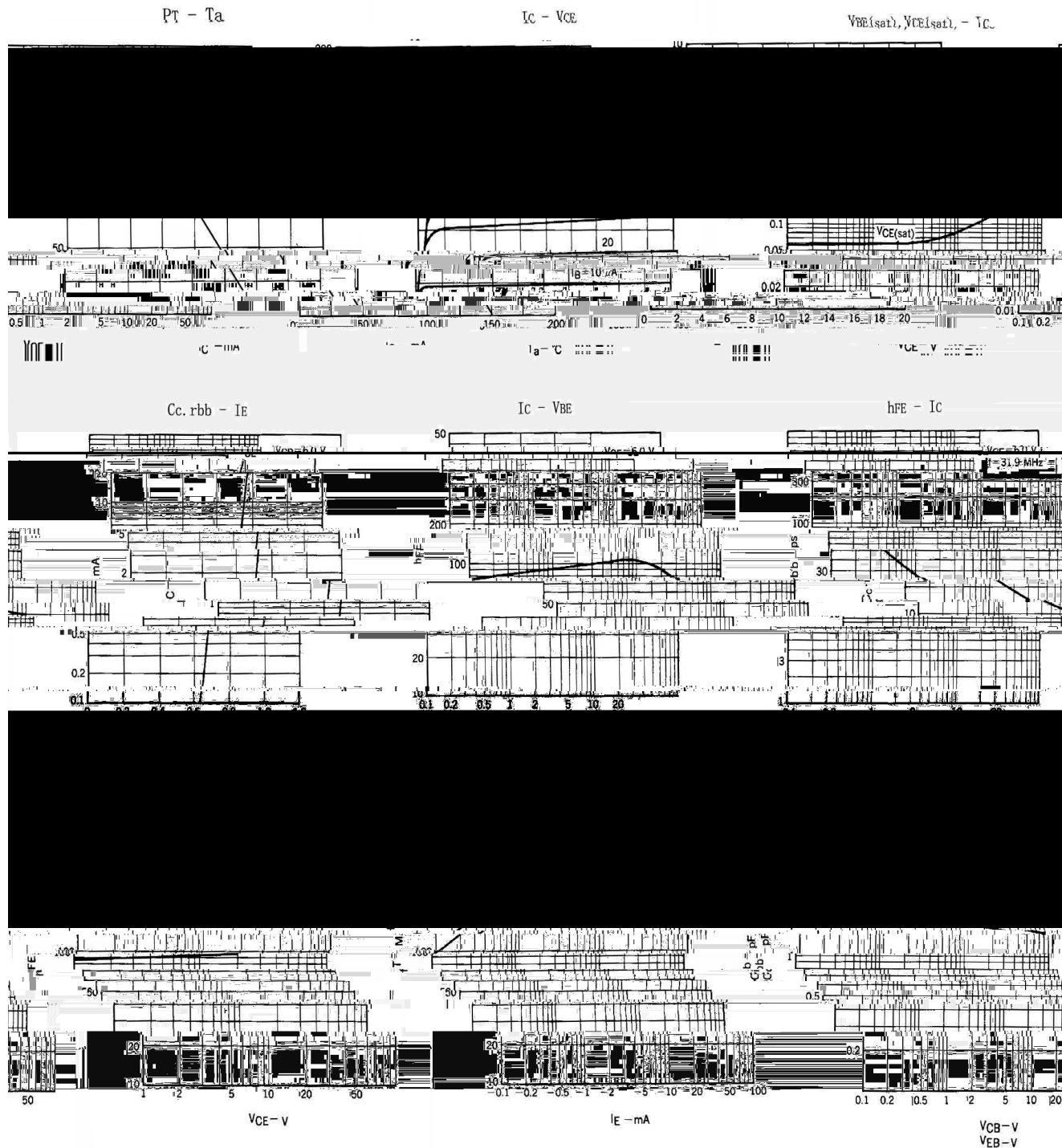
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	25	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 150	°C

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- Base Breakdown Voltage	V_{CBO}	$I_C = 50\mu A$ $I_E = 0$	40			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 1.0mA$ $I_B = 0$	25			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 50\mu A$ $I_C = 0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = 24V$ $I_E = 0$			0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB} = 3.0V$ $I_C = 0$			0.5	μA
DC Current Gain	h_{FE}	$V_{CE} = 6.0V$ $I_C = 1.0mA$	56		270	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10mA$ $I_B = 1.0mA$		0.1	0.3	V
Transition Frequency	f_T	$V_{CE} = 6.0V$ $I_C = 1.0mA$ $f = 100MHz$	150	300		MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 6.0V$ $I_E = 0mA$ $f = 1.0MHz$		1.3	2.2	pF

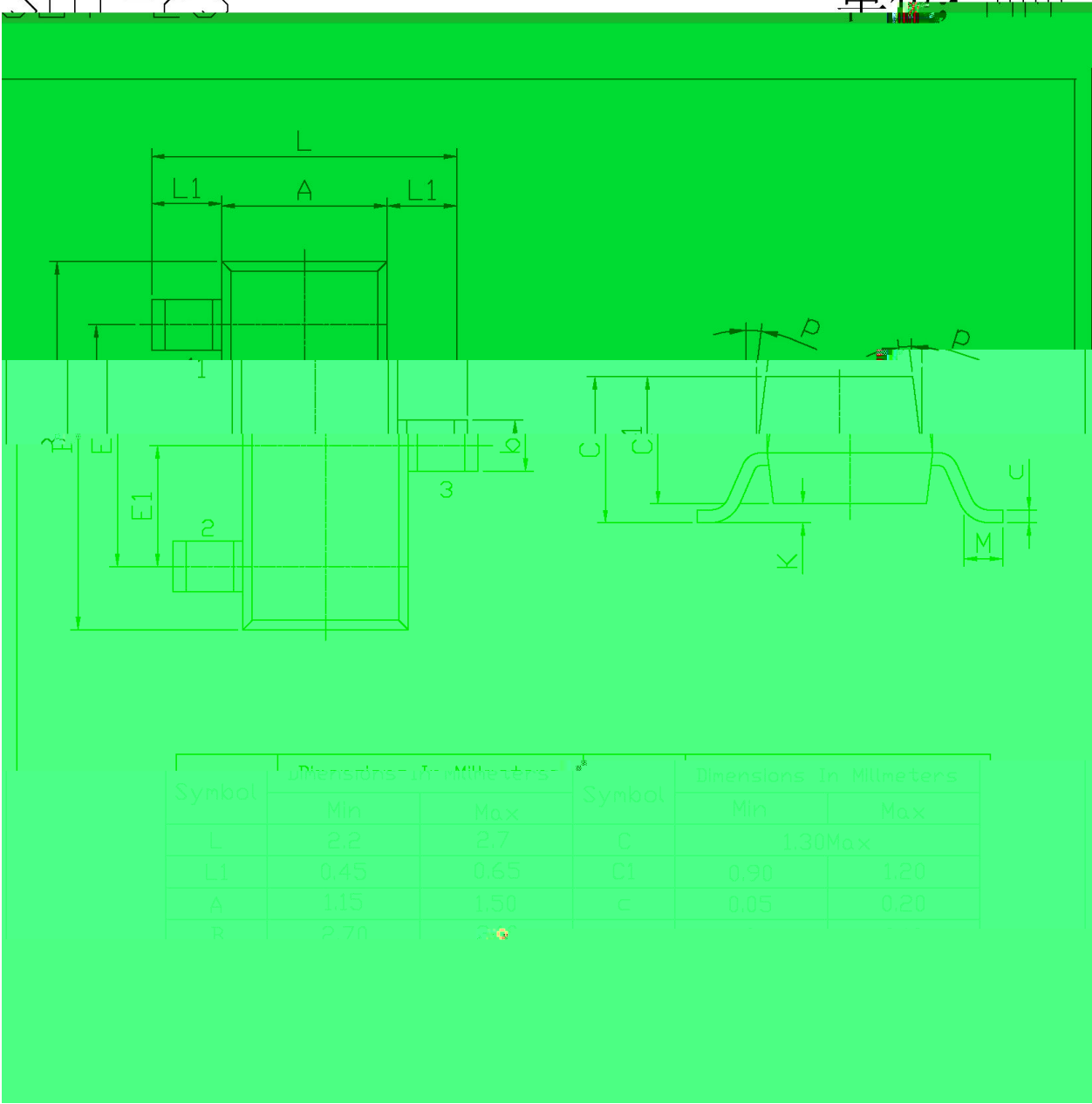
/ Electrical Characteristic Curve



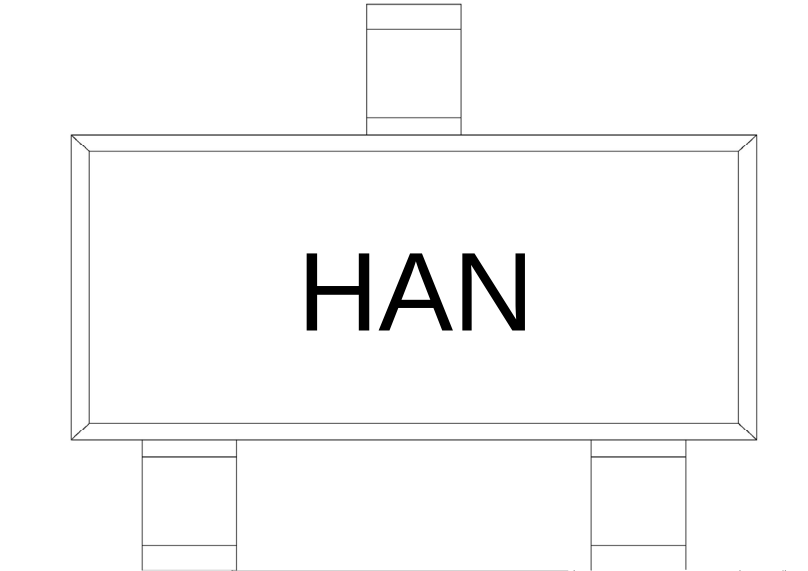
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



h_{FE}

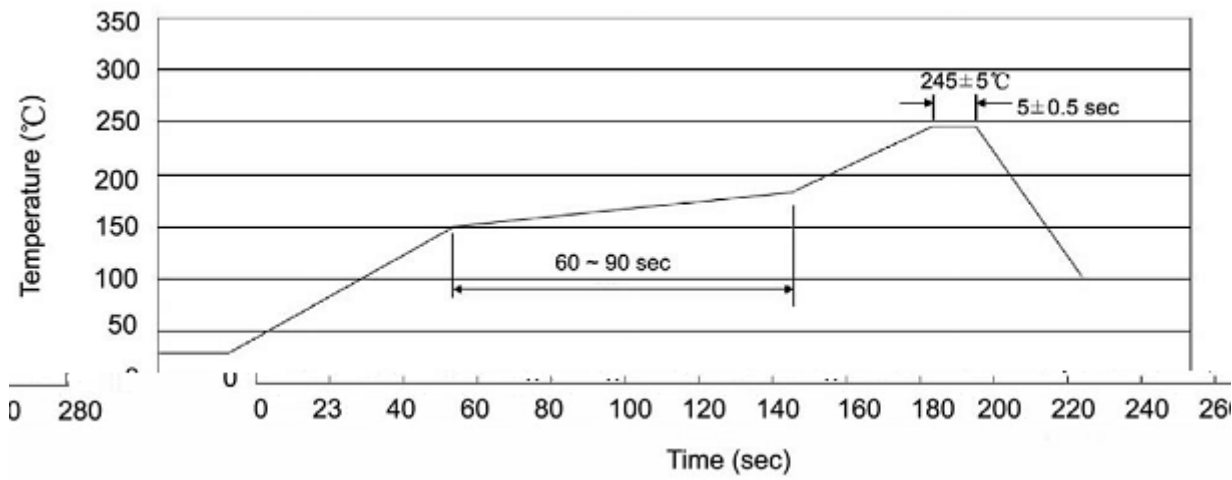
Note:

Company Code

Product Type Code

h_{FE} Classifications Symbol Code

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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	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

/ Notices