

/ Descriptions

SOT-23 NPN Silicon NPN transistor in a SOT-23 Plastic Package.

/ Features

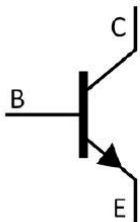
High f_T .

/ Applications

100 μ A-20mA

Low noise UHF/VHF amplifiers, with collector currents in the 100 μ A to 20mA.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Emitter PIN 3 Collector

/ Marking

h_{FE} Range	>60
Marking	3EH

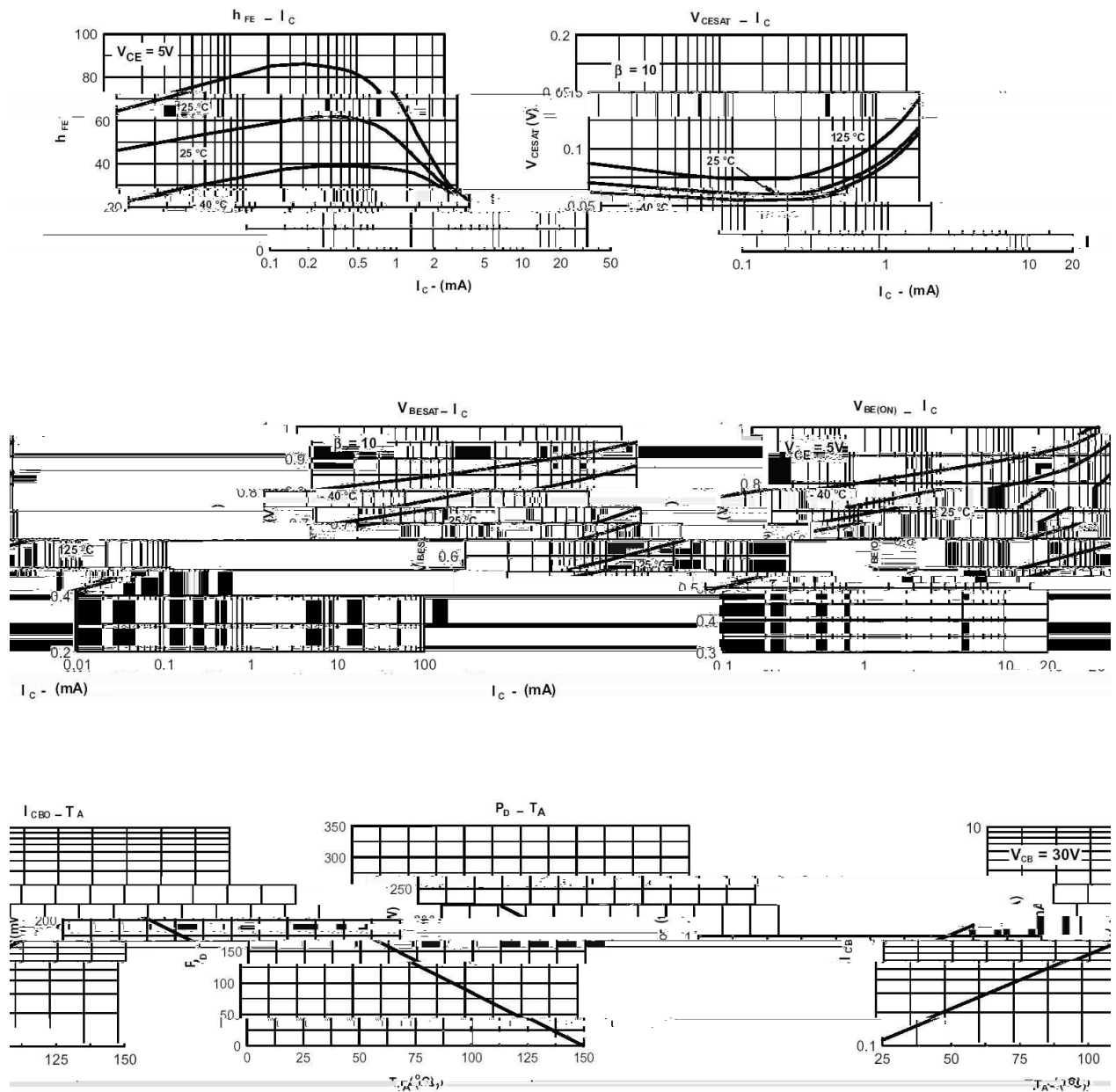
/ Absolute Maximum Ratings(Ta=25 –)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	25	V
Emitter to Base Voltage	V_{EBO}	3	V
Collector Current-Continuous	I_C	50	mA
Collector Power Dissipation	P_C	225	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}	$I_C=100\mu A$ $I_E=0$	30			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	25			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	3.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=25V$ $I_E=0$			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=2.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=4.0mA$	60			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.0mA$ $I_B=0.4mA$			0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=10V$ $I_C=4.0mA$			0.95	V
Transition Frequency	f_T	$I_C=4.0mA$ $V_{CE}=10V$ $f=100MHz$	650			MHz
Collector–Base Capacitance	C_{cb}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$			0.7	pF
Common–Base Feedback Capacitance	C_{rb}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$	0.35		0.65	pF
Collector Base Time Constant	$r_b C_c$	$V_{CB}=10V$ $I_C=4.0mA$ $f=31.8MHz$			9.0	pS

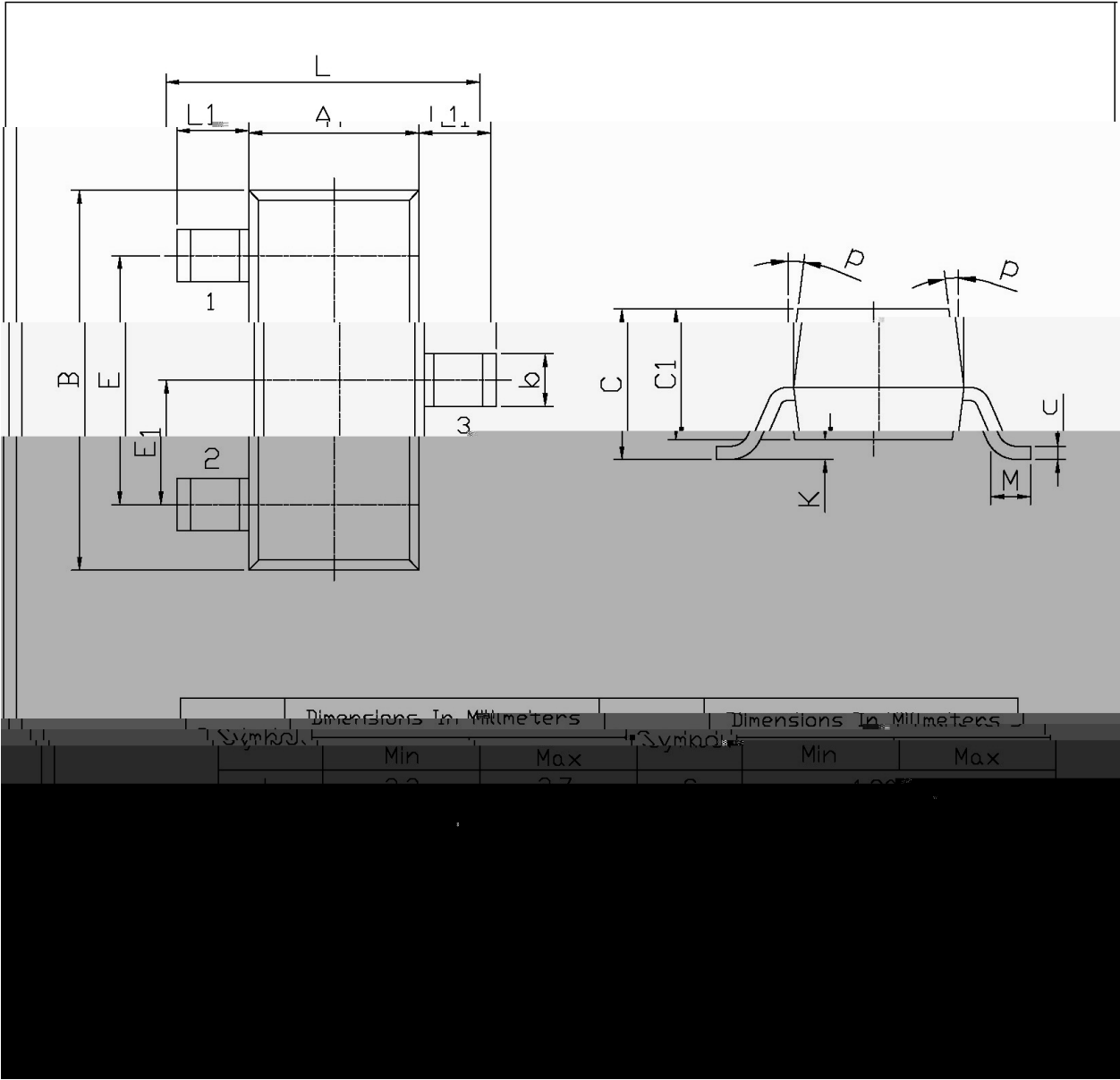
/ Electrical Characteristic Curve



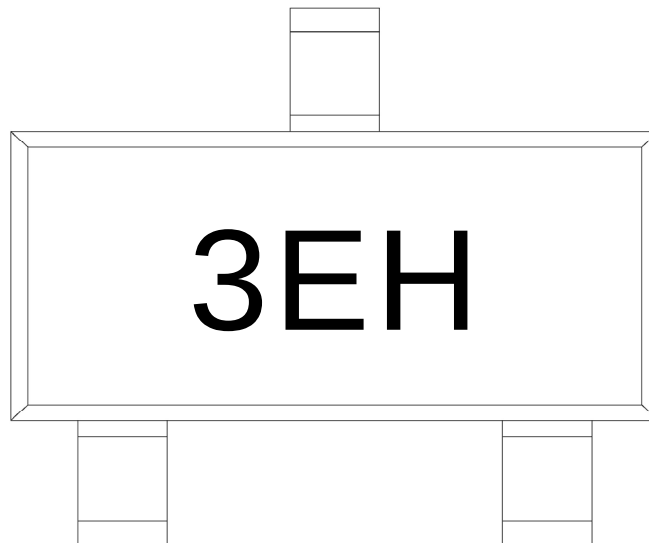
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



3E

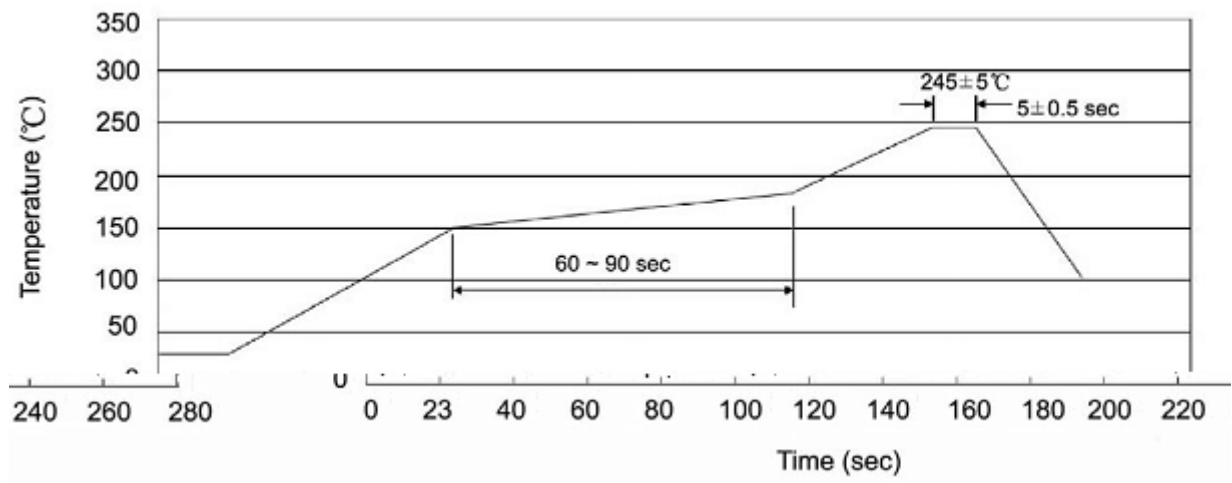
H

Note:

3E: Product Type Code

H: Company 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