/ Descriptions

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

/ Features

High f_T.

/ Applications

100μA-20mA

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

/ Equivalent Circuit

/ Pinning

PIN1 Base PIN 2 Emitter PIN 3 Collector

/ Marking

h_{FE} Range	>60
Marking	3EH

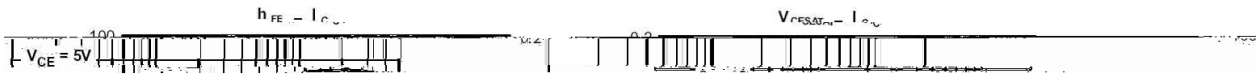
/ Absolute Maximum Ratings(Ta=25)

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	

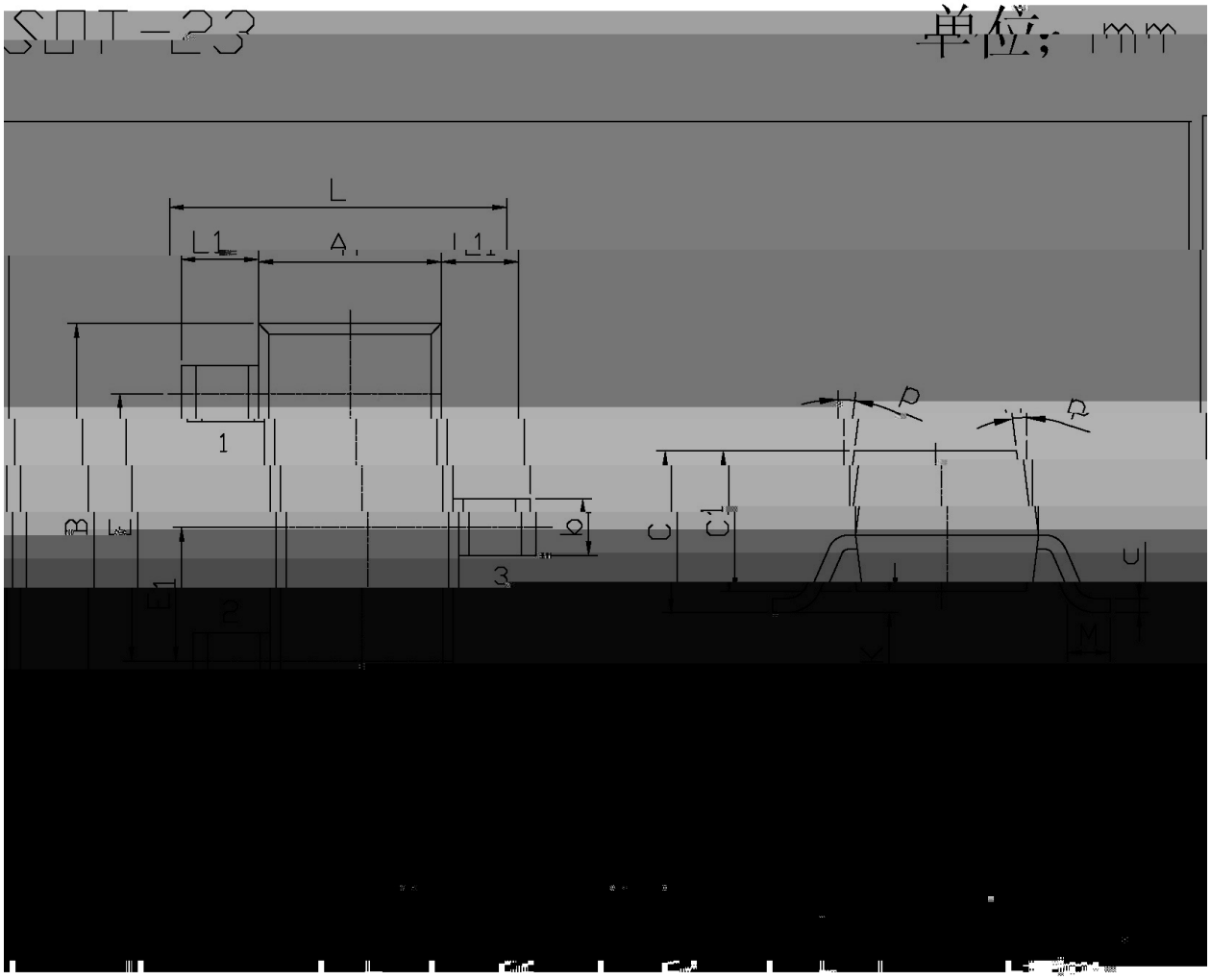
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=100 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 A I_C=0	3.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=25 V I_E=0			0.1	A
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=2.0V I_C=0			0.1	A
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	$rb'C_c$	V_{CB}=10V I_C=4.0mA f=31.8MHz			9.0	pS

/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions

3E

H

Note:

3E: Product Type Code

H: Company Code.