

/ 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

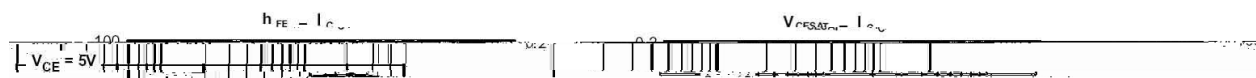
/ Absolute Maximum Ratings(Ta=25 –)

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	

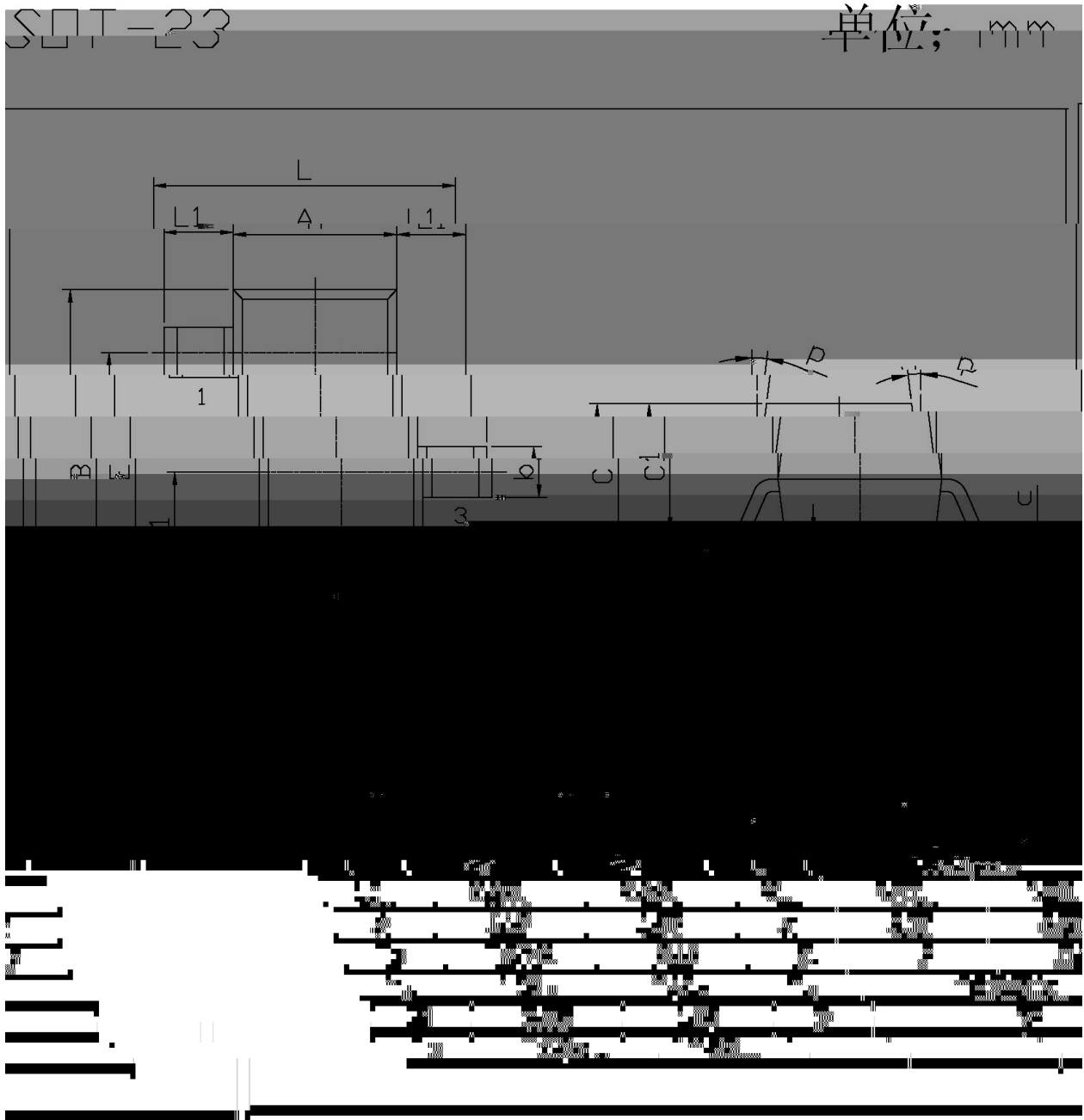
/ Electrical Characteristics(Ta=25 –)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\text{ A}$ $I_E=0$	30			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	25			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}	$V_{CB}=25\text{ V}$ $I_E=0$			0.1	A
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=2.0\text{V}$ $I_C=0$			0.1	A
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$ $I_C=4.0\text{mA}$	60			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.0\text{mA}$ $I_B=0.4\text{mA}$			0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=10\text{V}$ $I_C=4.0\text{mA}$			0.95	V
Transition Frequency	f_T	$I_C=4.0\text{mA}$ $V_{CE}=10\text{V}$ $f=100\text{MHz}$	650			MHz
Collector–Base Capacitance	C_{cb}	$V_{CB}=10\text{V}$ $I_E=0$ $f=1.0\text{MHz}$			0.7	pF
Common–Base Feedback Capacitance	C_{rb}	$V_{CB}=10\text{V}$ $I_E=0$ $f=1.0\text{MHz}$	0.35		0.65	pF
Collector Base Time Constant	τ_{bc}	$V_{CB}=10\text{V}$ $I_C=4.0\text{mA}$ $f=31.8\text{MHz}$			9.0	pS

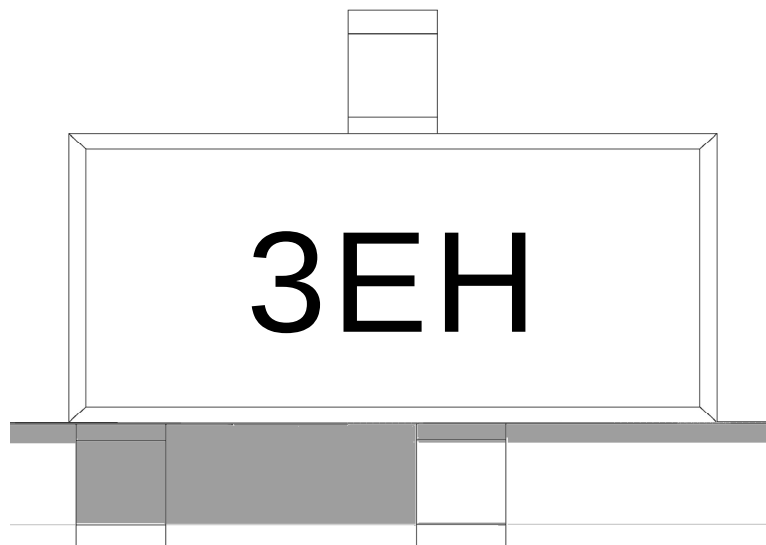
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



3E

H

Note:

3E: Product Type Code

H: Company Code.

