

**/ Descriptions**

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

**/ Features**

High  $f_T$ .

**/ Applications**

100 $\mu$ A-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

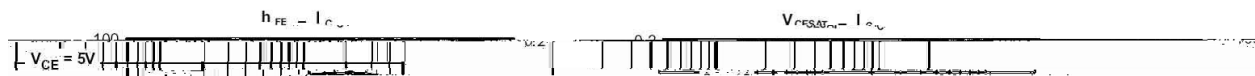
**/ Absolute Maximum Ratings(Ta=25 )**

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	

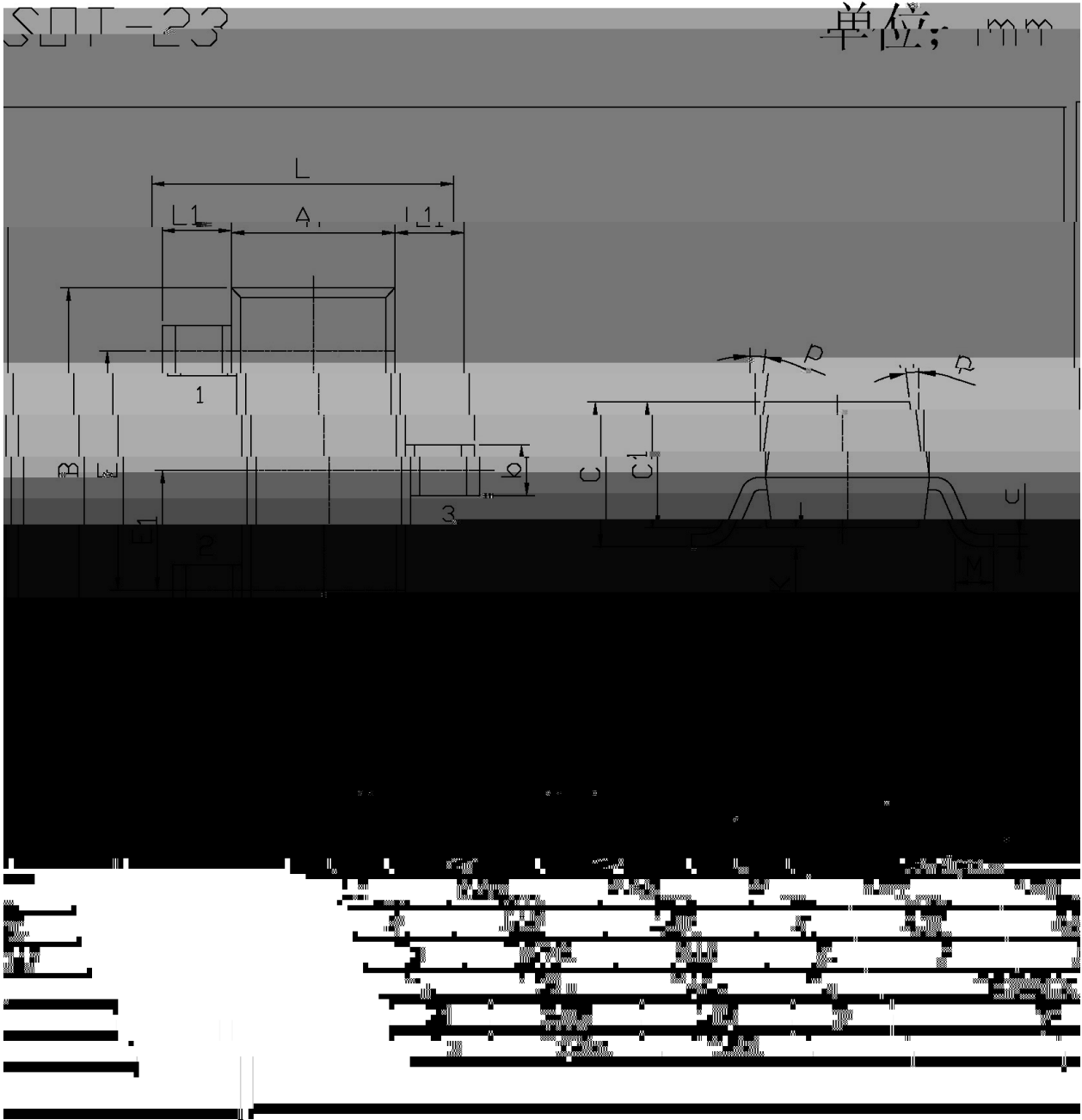
**/ Electrical Characteristics(Ta=25 )**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=100\text{ A}$ $I_E=0$	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	$\tau_{bc}$	$V_{CB}=10\text{V}$ $I_C=4.0\text{mA}$ $f=31.8\text{MHz}$			9.0	pS

/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



3E

H

Note:

3E: Product Type Code

H: Company Code.

