

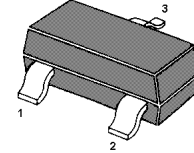
NPN Silicon Epitaxial Planar Transistor

for audio frequency low noise amplifier applications.

The transistor is subdivided into two groups G and L, according to its DC current gain.

Features:

- High voltage: $V_{CEO}=120V$
- High h_{FE} : $h_{FE}=200-700$
- Low noise: $NF(2)=0.2dB(typ.),3dB(max)$
- Small package



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^{\circ}C$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	120	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Base Current	I_B	20	mA
Collector Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	125	$^{\circ}C$
Storage Temperature Range	T_s	-55 to +125	$^{\circ}C$

Characteristics at $T_a=25\text{ }^\circ\text{C}$

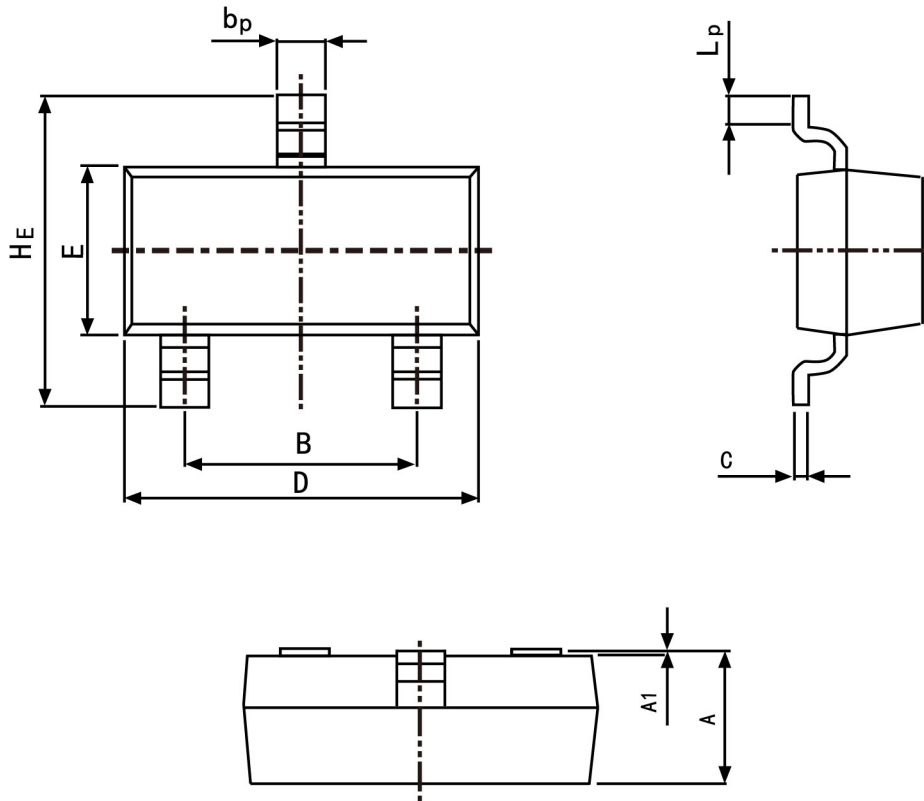
Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	G	h_{FE}	200	-	400	-
	L	h_{FE}	350	-	700	-
Collector Emitter Saturation Voltage at $I_C=10\text{mA}$, $I_B=1\text{mA}$		$V_{CE(sat)}$	-	-	0.3	V
Collector Cut-off Current at $V_{CB}=120\text{V}$		I_{CBO}	-	-	0.1	μA
Emitter Cut-off Current at $V_{EB}=5\text{V}$		I_{EBO}	-	-	0.1	μA
Transition Frequency at $V_{CE}=6\text{V}$, $I_C=1\text{mA}$		f_T	-	100	-	MHz
Collector Output Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$		C_{OB}	-	4	-	pF
Noise Figure	at $V_{CB}=6\text{V}$, $I_C=0.1\text{mA}$ $f=100\text{Hz}$, $R_G=10\text{K}\Omega$	NF	-	0.5	6	dB
	at $V_{CB}=6\text{V}$, $I_C=0.1\text{mA}$ $f=1\text{KHz}$, $R_G=10\text{K}\Omega$	NF	-	0.2	3	



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50