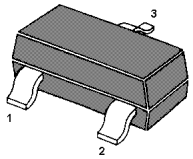
NPN Silicon Epitaxial Planar Transistor

for low noise, high gain amplifier at VHF~UHF band.

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



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

Absolute Maximum Ratings (T_a = 25 °C)

	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Base Current	I_B	40	mA
Collector Current	I_C	80	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_S	-55 to +125	°C

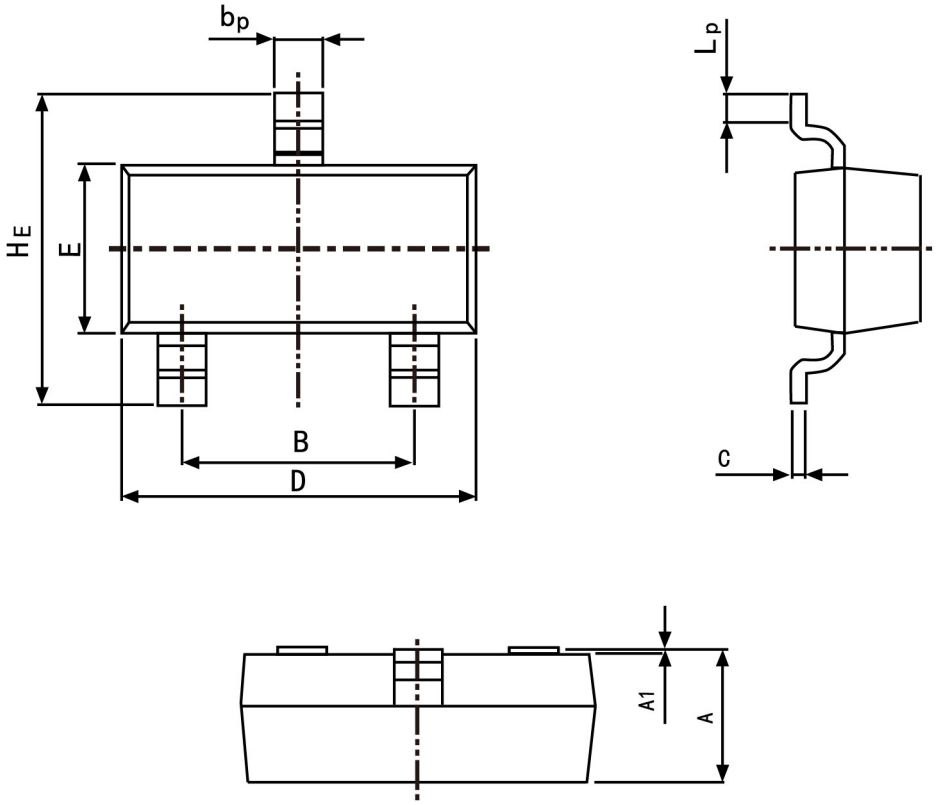
Characteristics at T_{amb}=25 °C

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE}=10V, I_C=20mA					
Current Gain Group O	h_{FE}	80	-	160	-
Y	h_{FE}	120	-	240	-
Collector Cutoff Current at V_{CB}=10V	I_{CBO}	-	-	1	μA
Emitter Cutoff Current at V_{EB}=1.0V	I_{EBO}	-	-	1	μA
Transition Frequency at V_{CE}=10V, I_C=20mA	f_T	5	7	-	GHz
Reverse Transfer Capacitance at V_{CB}=10V, f=1MHz [1)]	C_{re}	-	0.65	1.15	pF
Output Capacitance at V_{CB}=10V, f=1MHz [1)]	C_{ob}	-	1	-	pF
Insertion Gain at V_{CE}=10V, I_C=20mA, f=500MHz	$\lvert S_{21e} \rvert^2_1$	-	16.5	-	dB
Insertion Gain at V_{CE}=10V, I_C=20mA, f=1.0GHz	$\lvert S_{21e} \rvert^2_2$	7.5	11	-	dB
Noise Figure at V_{CE}=10V, I_C=5mA, f=500MHz	NF_1	-	1	-	dB
Noise Figure at V_{CE}=10V, I_C=5mA, f=1.0GHz	NF_2	-	1.1	2	dB

[1)] C_{re} is measured by 3 terminal method with capacitance bridge.

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