



## NPN Silicon Epitaxial Planar Transistor

## S9011

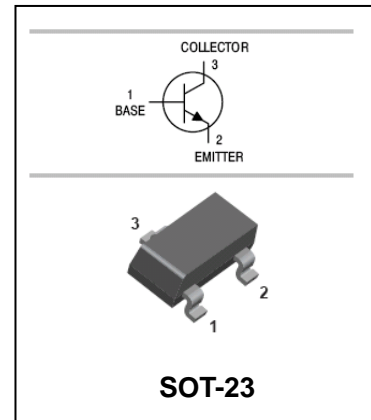
### FEATURES

- Collector Current.( $I_C=30\text{mA}$ )
- Power dissipation.( $P_C=200\text{mW}$ )



### APPLICATIONS

- AM converter, AM/FM if amplifier general purpose transistor



### ORDERING INFORMATION

Type No.	Marking	Package Code
S9011	1T	SOT-23

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	30	mA
$P_C$	Collector Dissipation	200	mW
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1\text{mA}, I_B=0$	30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=50\text{V}, I_E=0$		0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	28	198	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$		0.3	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	0.65	0.75	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	150		MHz



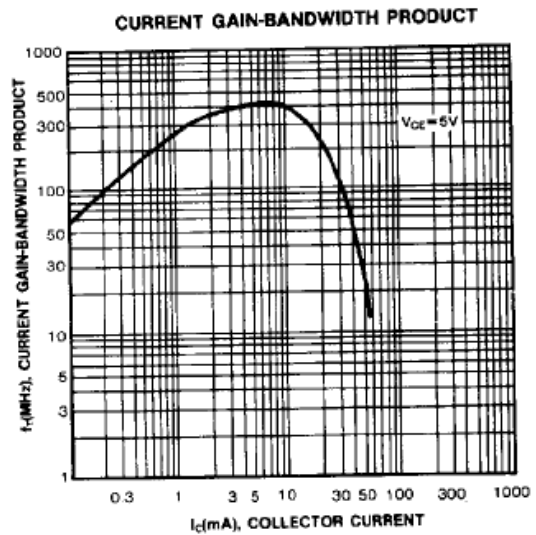
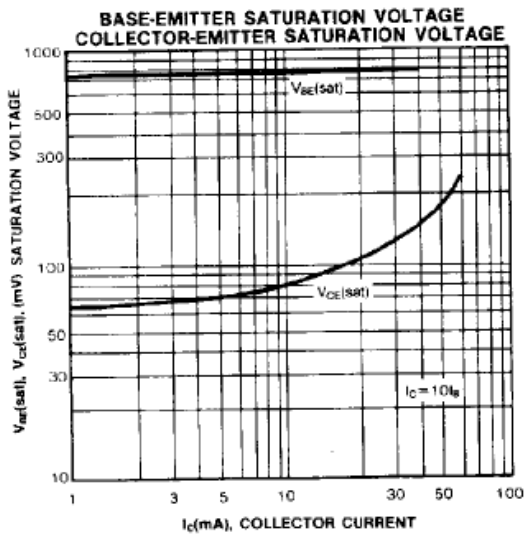
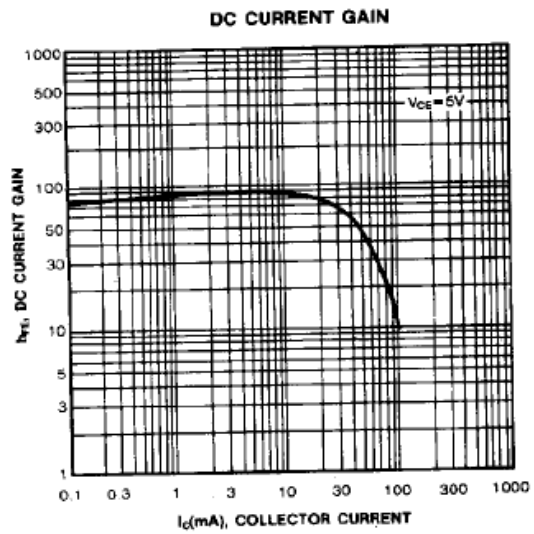
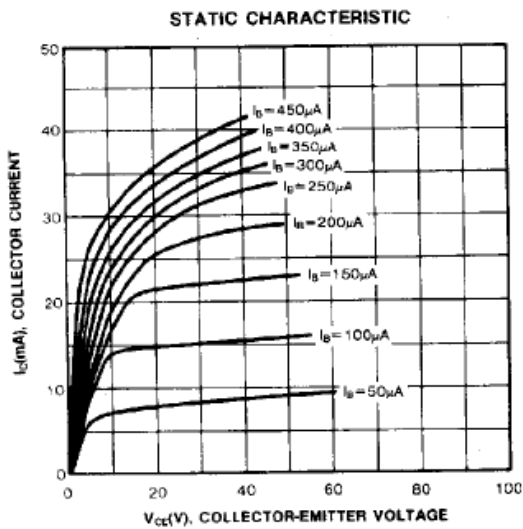
NPN Silicon Epitaxial Planar Transistor

S9011

CLASSIFICATION OF  $h_{FE(1)}$

Rank	D	E	F	G	H	I
Range	28-45	39-60	54-80	72-108	97-146	132-198

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



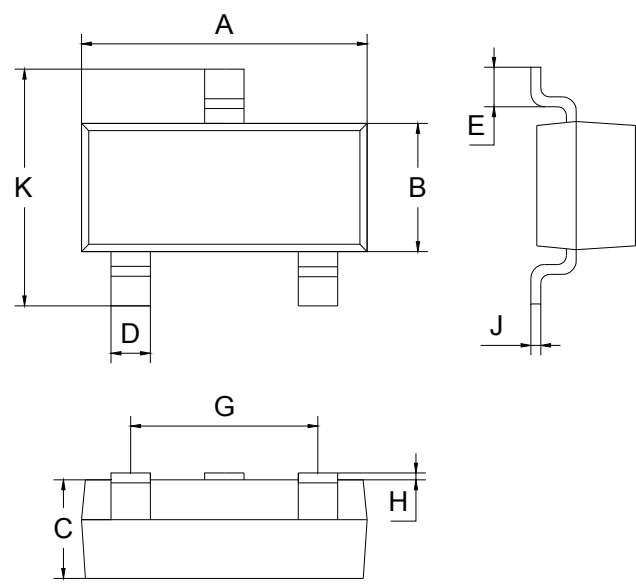
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## PACKAGE OUTLINE

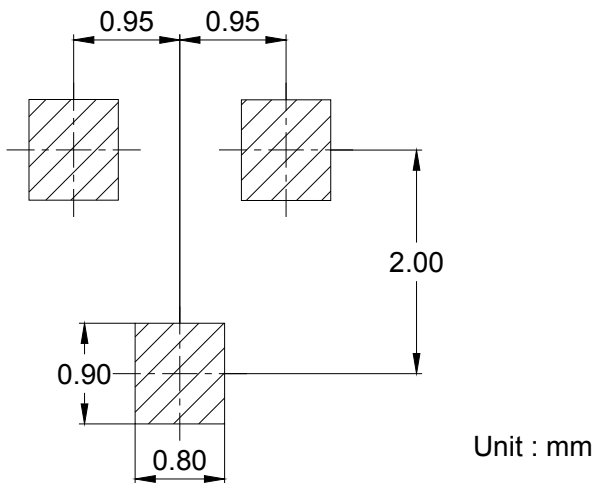
Plastic surface mounted package

SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

Device	Package	Shipping
S9011	SOT-23	3000/Tape&Reel