



## S9013

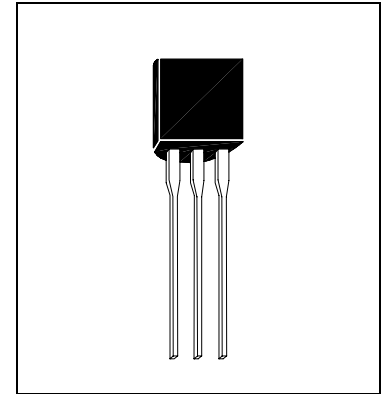
NPN EPITAXIAL PLANAR TRANSISTOR

### Description

The S9013 is designed for use in 1W output amplifier of portable radios in class B push-pull operation.

### Features

- High Total Power Dissipation. (PT:625mW)
- High Collector Current. (IC:500mA)
- Complementary to S9012
- Excellent linearity.



### Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature ..... -55~+150°C  
Junction Temperature..... +150°C Maximum
- Maximum Power Dissipation  
Total Power Dissipation (Ta=25°C)..... 625 mW
- Maximum Voltages and Currents (Ta=25°C)  
VCBO Collector to Base Voltage..... 40V  
VCEO Collector to Emitter Voltage..... 20V  
VEBO Emitter to Base Voltage..... 5V  
IC Collector Current ..... 500 mA  
Icp Base Current..... 100 mA

### Characteristics (Ta=25°C)

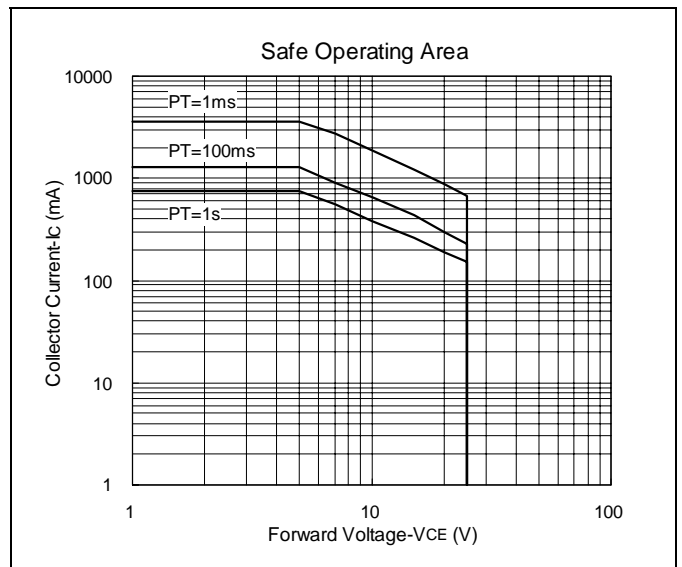
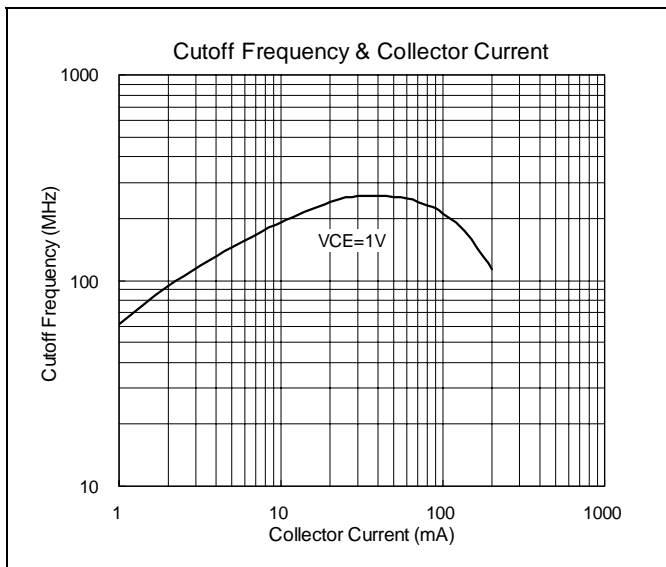
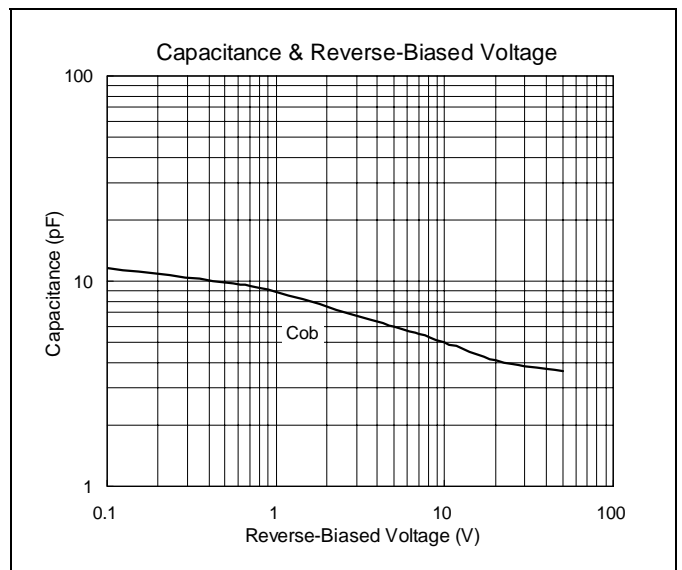
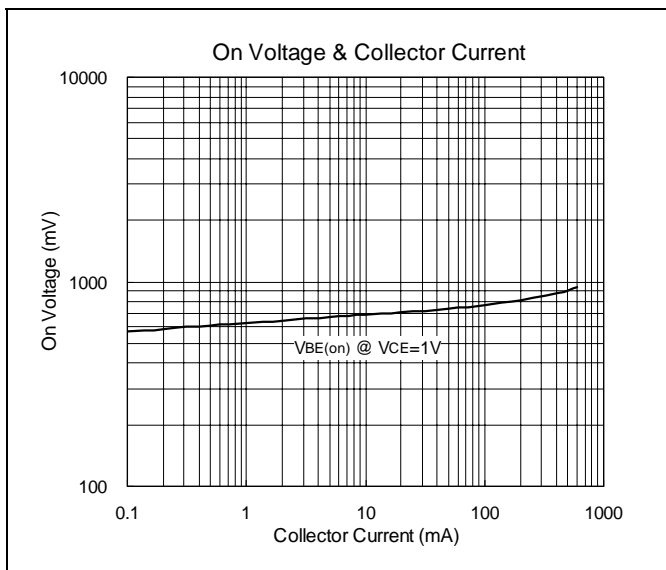
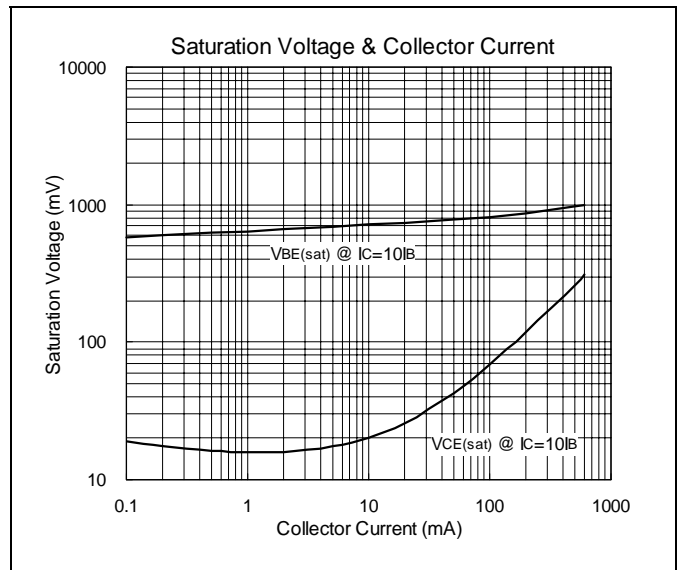
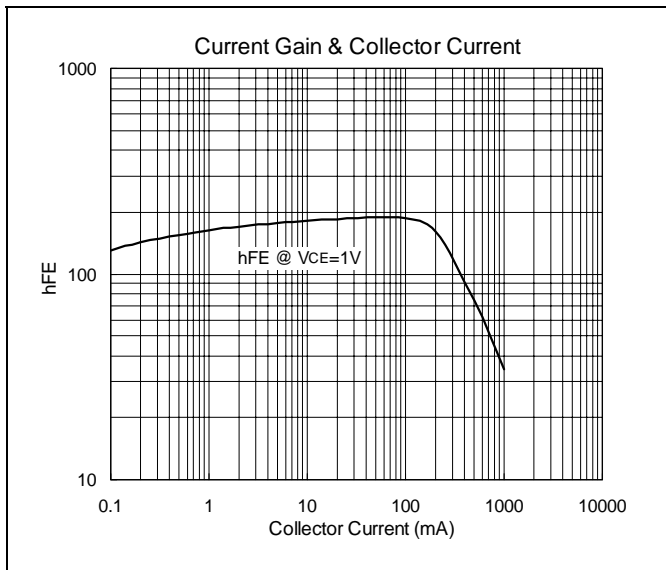
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	IC=100uA, IE=0
BVCEO	20	-	-	V	IC=1mA, IB=0
BVEBO	5.0	-	-	V	IE=100uA, IC=0
ICBO	-	-	100	nA	VCE=25V, IE=0
IEBO	-	-	100	nA	VEB=3V, IC=0
VCE(sat)	-	-	0.6	V	IC=500mA, IB=50mA
VBE(sat)	-	-	1.2	V	IC=500mA, IB=50mA
VBE(on)	-	-	0.9	V	VCE=1V, IC=10mA
hFE1	112	180	300		VCE=1V, IC=50mA
hFE2	40	-	-		VCE=1V, IC=500mA
Cob	-	-	8	pF	VCB=10V, f=1MHz
fT	100	-	-	MHz	VCE=1V, IC=10mA, f=100MHz

### Classification on hFE1

Rank	G	H	I1	I2
Range	112-166	144-202	176-246	214-300

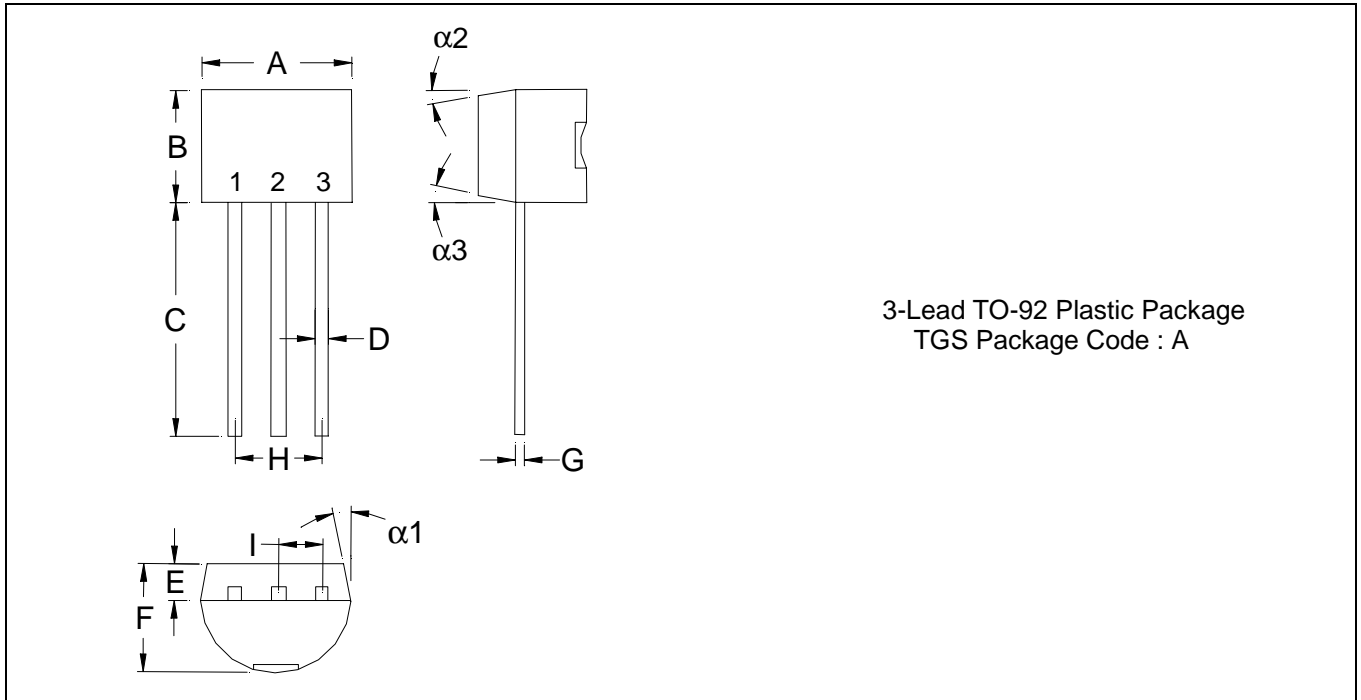


## Characteristics Curve





## TO-92 Dimension



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*2°	-	*2°