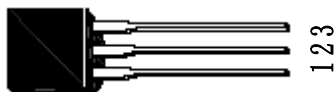
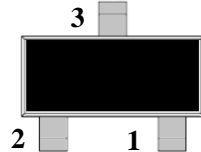


## 1、Features

- Lead(Pb)-Free
- Collector Current:  $I_C=1.5A$
- Collector Power Dissipation:  $P_C=1W(T_C=25^{\circ}C)$
- Complimentary to SS8550

## 2、Pinning information

PIN	Description	Simplified outline	
1	Emitter(E)		
2	Base(B)		
3	Collector(C)		
		TO-92	SOT-23

## 3、Limiting value

( $T_a = 25^{\circ}C$  unless otherwise noted).

SYMBOL	PARAMETER		Limit	UNIT
Vcbo	Collector-Base Voltage		40	V
Vceo	Collector-Emitter Voltage		25	V
Vebo	Emitter-Base Voltage		6	V
Ic	Collector Current		1.5	A
Pc	Collector Power Dissipation	TO-92	1.0	W
		SOT-23	0.36	
Tj	Junction Temperature		+150	$^{\circ}C$
Tstg	Storage Temperature		-55 to +150	$^{\circ}C$

## 4、Electrical Characteristics ( $T_a = 25^{\circ}C$ unless otherwise noted)

SYMBOL	PARAMETER	CONDITIONS	MIN	Typ	MAX	UNIT
BVcbo	Collector-Base Breakdown Voltage	$I_C = 100\mu A, I_B = 0$	40			V
Bvceo	Collector-Emitter Breakdown Voltage	$I_C = 2mA, I_E = 0$	25			V
Bvebo	Emitter-Base Breakdown Voltage	$I_E = 100\mu A, I_C = 0$	6			V
Icbo	Collector Cut-off Current	$V_{CB} = 35V, I_E = 0$			100	nA
Iebo	Emitter Cut-off Current	$V_{EB} = 6V, I_C = 0$			100	nA
Vce(sat)	Collector-Emitter Saturation Voltage	$I_C=800mA$ $I_B=80mA$			0.5	V
Vbe(sat)	Base-Emitter Saturation Voltage	$I_C=800mA$ $I_B=80mA$			1.2	V
Vbe(on)	Base-Emitter On Voltage	$V_{CE} = 1V, I_C=10mA$			1.0	V
$h_{FE}$	DC Current Gain	$V_{CE} = 1V, I_C=100mA$	85		300	
$f_T$	Current Gain Bandwidth Product	$V_{CE}=10V, I_C= 50mA$	100			MHz
Cob	Output Capacitance	$V_{CB}=10V, f = 1MHz$		9.0		pF

### $h_{FE}$ Classification

Rank	B	C	D
Range	85-160	120-200	170-300

## 5. Electrical Characteristics Curve

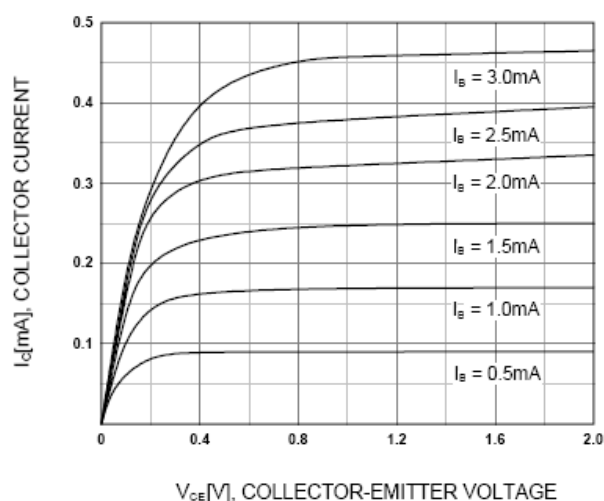


Figure 1. Static Characteristic

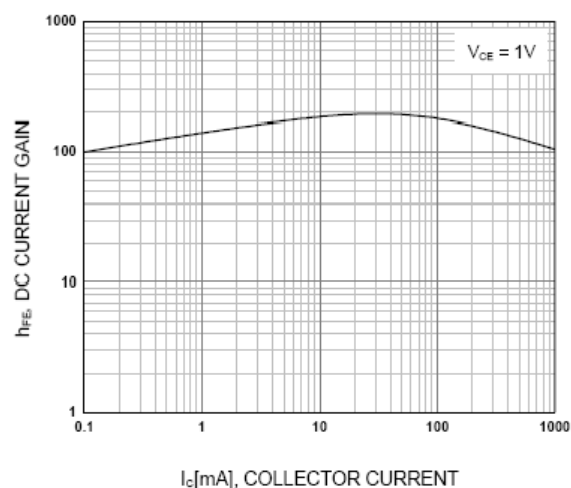


Figure 2. DC current Gain

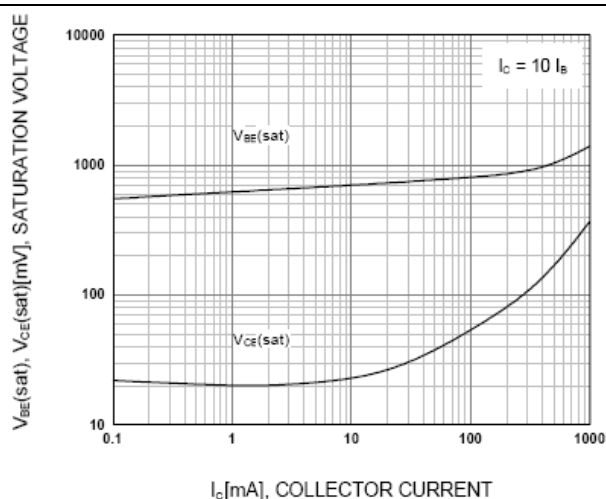
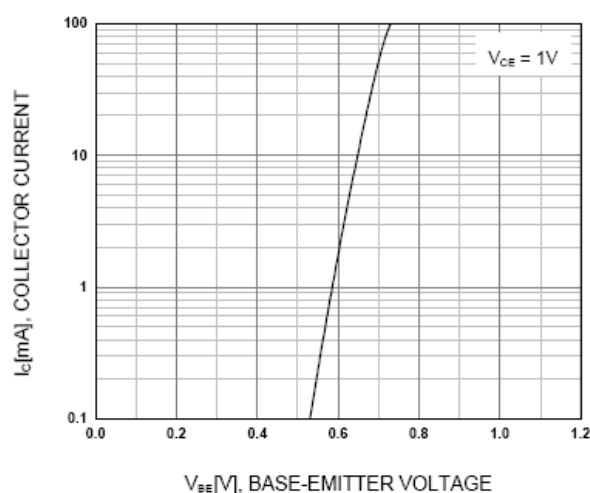
Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

Figure 4. Base-Emitter On Voltage

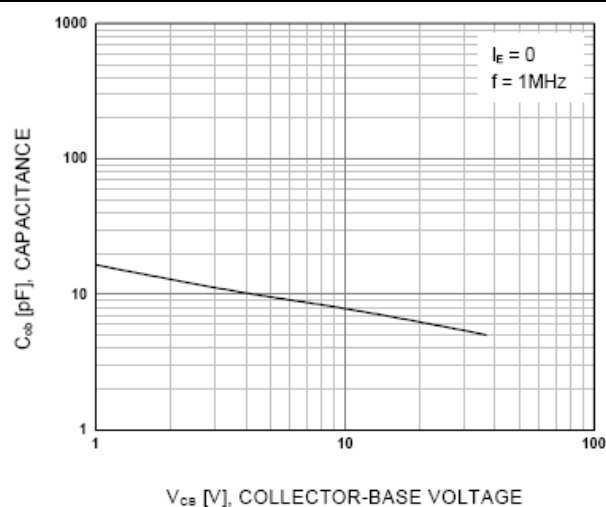


Figure 5. Collector Output Capacitance

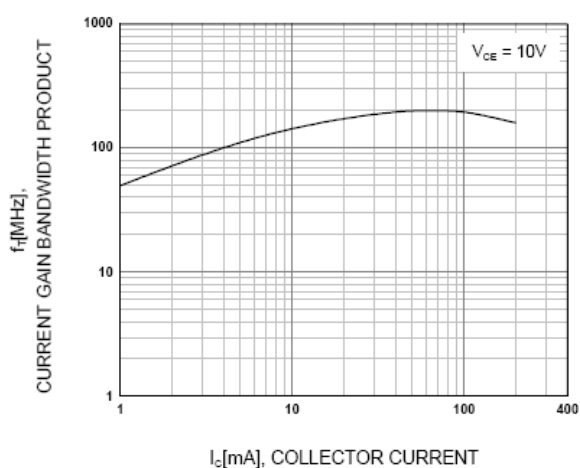
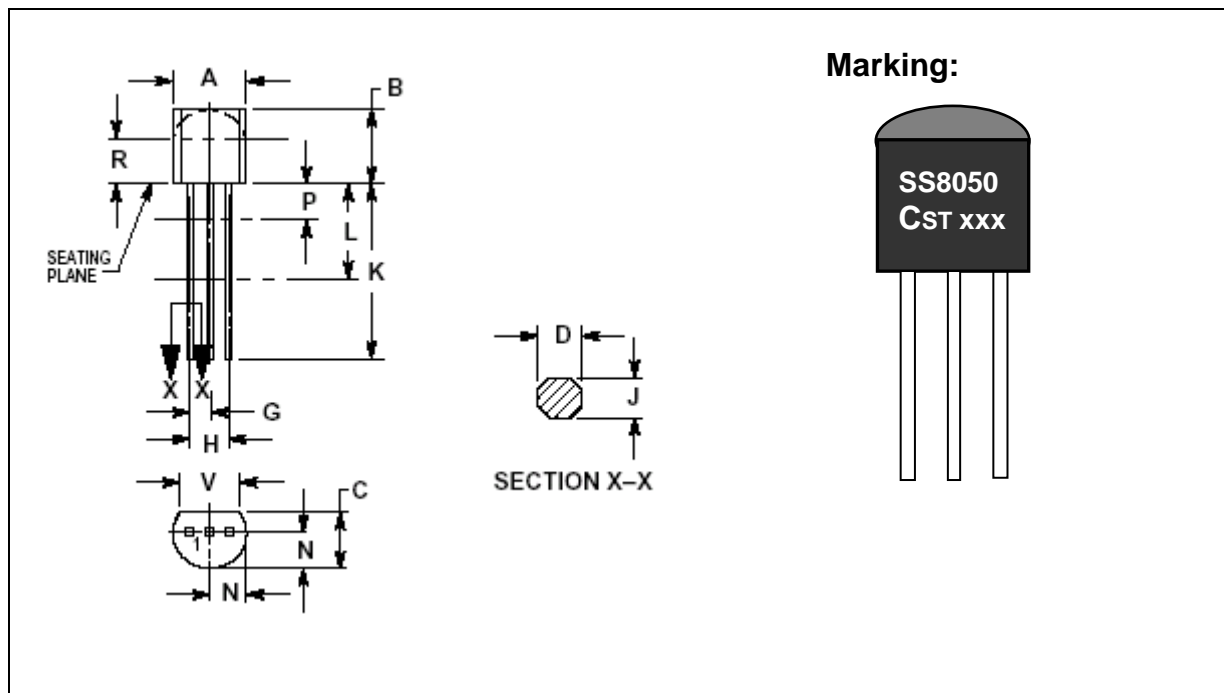


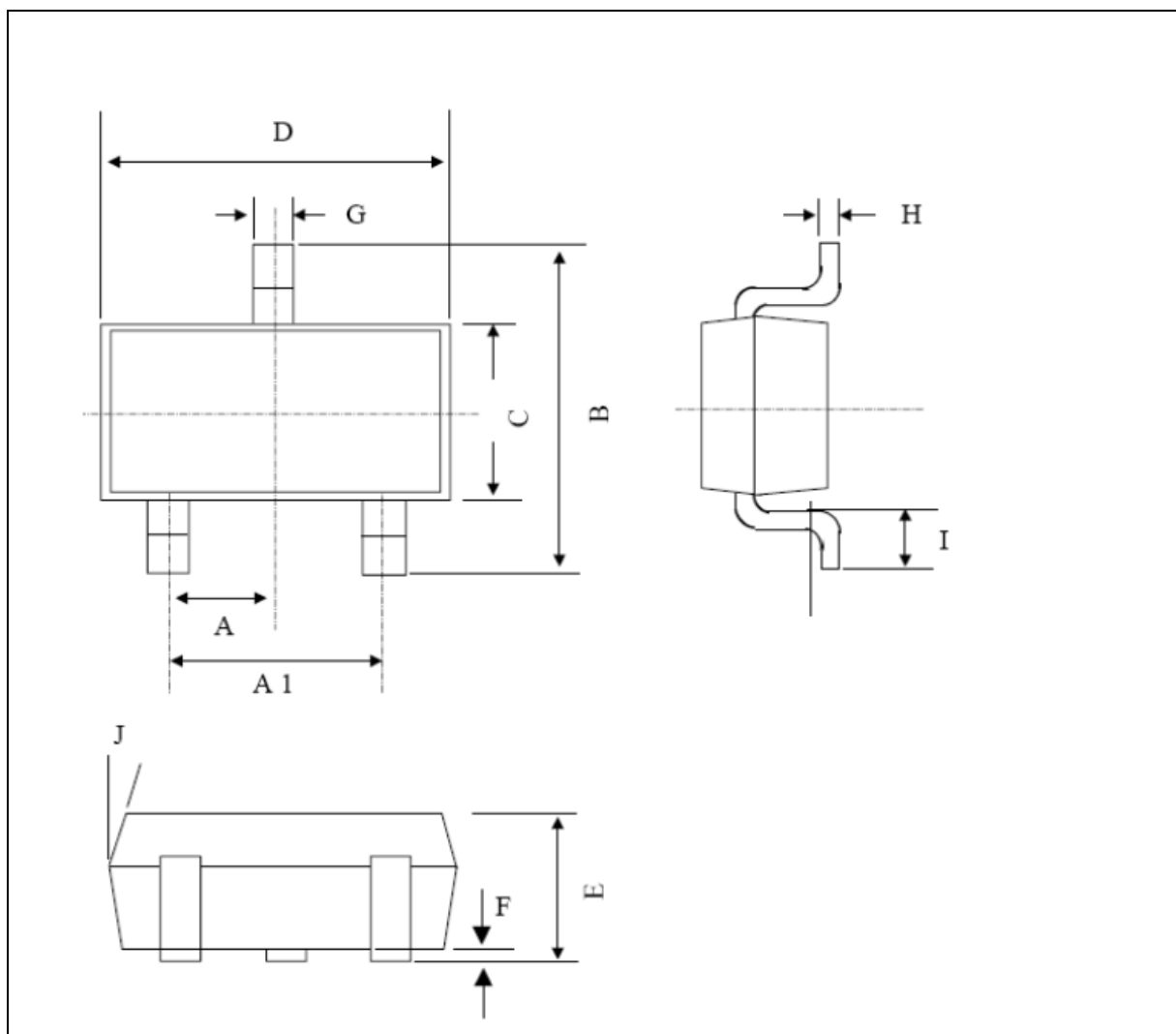
Figure 6. Current Gain Bandwidth Product

## 6、Package outline(TO-92)



DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min	Max	Min	Max		Min	Max	Min	Max
A	0.175	0.205	4.45	5.20	K	0.500	-	12.70	-
B	0.170	0.210	4.32	5.33					
C	0.134	0.142	3.40	3.60	N	0.080	0.105	2.04	2.66
D	0.016	0.021	0.407	0.533	P	-	0.100	-	2.54
G	0.045	0.055	1.27	2.41	R	0.079	-	2.00	-
H	0.095	0.105	2.42	2.66	V	0.135	-	3.43	-
J	0.012	0.018	0.30	0.45					

## 7、Package outline(SOT-23)



DIM	Inches		Milimeters		DIM	Inches		Milimeters	
	Min	Max	Min	Max		Min	Max	Min	Max
<b>A</b>	0.037BSC		0.95BSC		<b>F</b>	0.000	0.004	0.00	0.10
<b>A1</b>	0.074BSC		1.90BSC		<b>G</b>	0.012	0.020	0.30	0.50
<b>B</b>	0.089	0.100	2.25	2.55	<b>H</b>	0.003	0.006	0.08	0.15
<b>C</b>	0.047	0.055	1.20	1.40	<b>I</b>	0.012	0.020	0.30	0.50
<b>D</b>	0.114	0.122	2.9	3.10	<b>J</b>	5°	10°	5°	10°
<b>E</b>	0.039	0.045	0.90	1.15					