



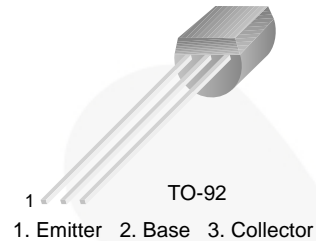
November 2014

# SS8550

## PNP Epitaxial Silicon Transistor

### Features

- 2 W Output Amplifier of Portable Radios in Class B Push-pull Operation.
- Complimentary to SS8050
- Collector Current:  $I_C = 1.5 \text{ A}$



### Ordering Information

Part Number	Top Mark	Package	Packing Method
SS8550BBU	S8550	TO-92 3L	Bulk
SS8550CBU	S8550	TO-92 3L	Bulk
SS8550CTA	S8550	TO-92 3L	Ammo
SS8550DBU	S8550	TO-92 3L	Bulk
SS8550DTA	S8550	TO-92 3L	Ammo

### Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current	-1.5	A
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-65 to 150	$^\circ\text{C}$

**Thermal Characteristics<sup>(1)</sup>**

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	1	W
	Derate Above $25^\circ\text{C}$	8	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	125	$^\circ\text{C}/\text{W}$

**Note:**

1. PCB size: FR-4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

**Electrical Characteristics**

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100 \mu\text{A}$ , $I_E = 0$	-40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -2 \text{ mA}$ , $I_B = 0$	-25			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100 \mu\text{A}$ , $I_C = 0$	-6			V
$I_{CBO}$	Collector Cut-Off Current	$V_{CB} = -35 \text{ V}$ , $I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-Off Current	$V_{EB} = -6 \text{ V}$ , $I_C = 0$			-100	nA
$h_{FE1}$	DC Current Gain	$V_{CE} = -1 \text{ V}$ , $I_C = -5 \text{ mA}$	45	170		
$h_{FE2}$		$V_{CE} = -1 \text{ V}$ , $I_C = -100 \text{ mA}$	85	160	300	
$h_{FE3}$		$V_{CE} = -1 \text{ V}$ , $I_C = -800 \text{ mA}$	40	80		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -800 \text{ mA}$ , $I_B = -80 \text{ mA}$		-0.28	-0.50	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -800 \text{ mA}$ , $I_B = -80 \text{ mA}$		-0.98	-1.20	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -1 \text{ V}$ , $I_C = -10 \text{ mA}$		-0.66	-1.00	V
$C_{ob}$	Output Capacitance	$V_{CB} = -10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$		15		pF
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10 \text{ V}$ , $I_C = -50 \text{ mA}$	100	200		MHz

 **$h_{FE}$  Classification**

Classification	B	C	D
$h_{FE2}$	85 ~ 160	120 ~ 200	160 ~ 300

Typical Performance Characteristics

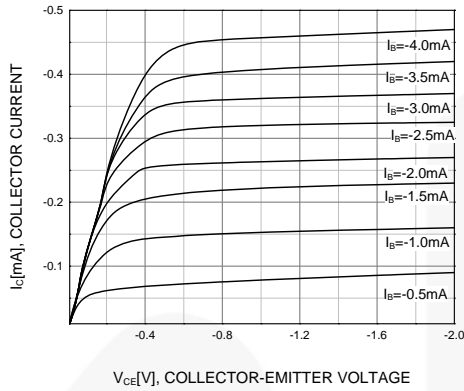


Figure 1. Static Characteristic

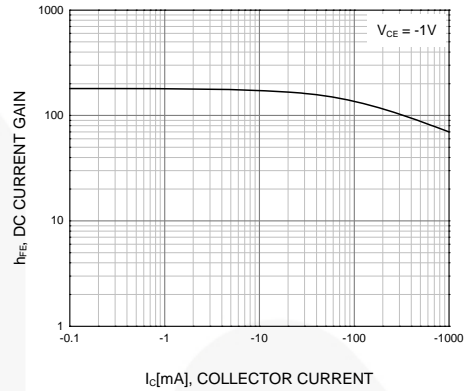


Figure 2. DC Current Gain

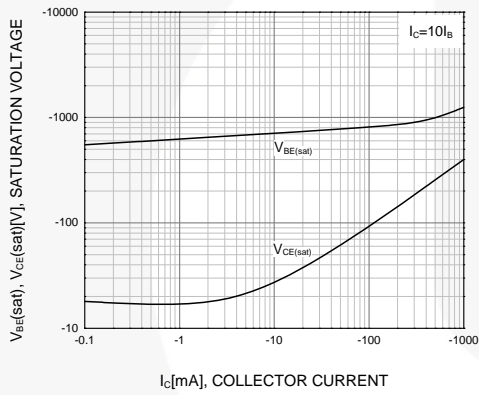


Figure 3. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage

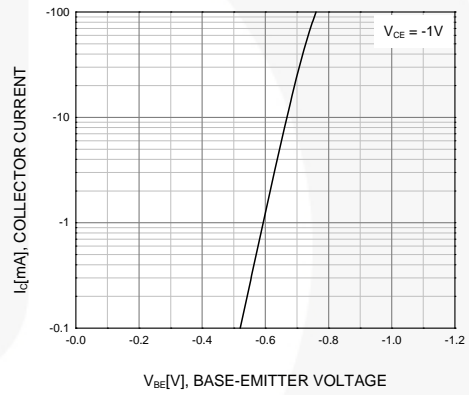


Figure 4. Base-Emitter On Voltage

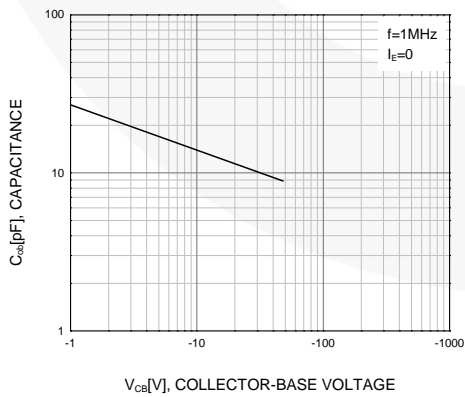


Figure 5. Collector Output Capacitance

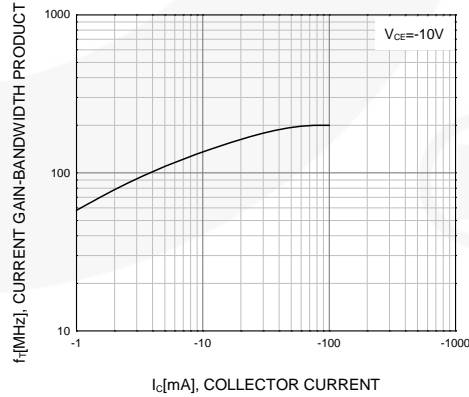
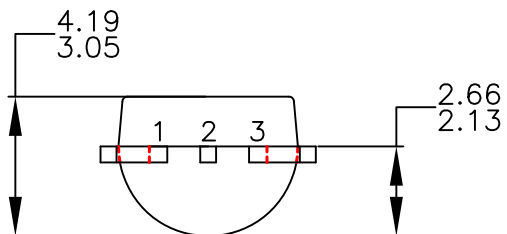
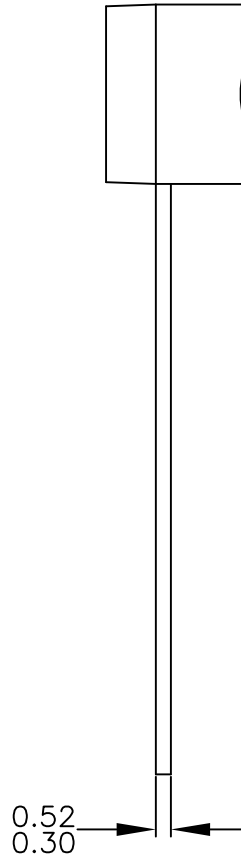
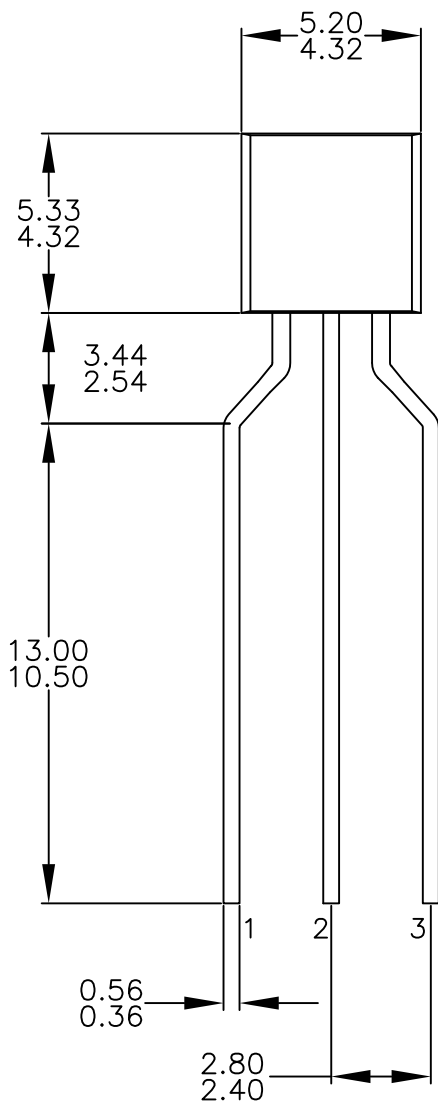
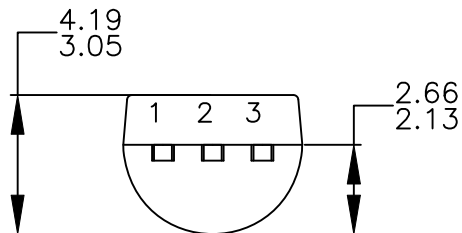
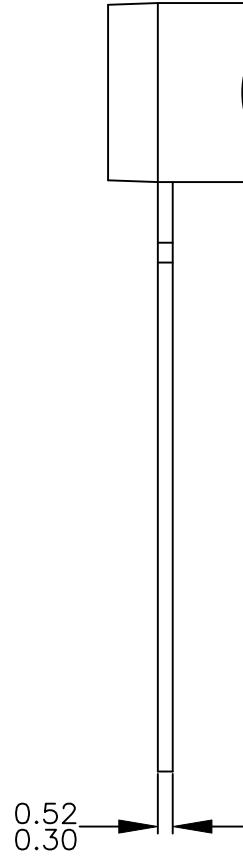
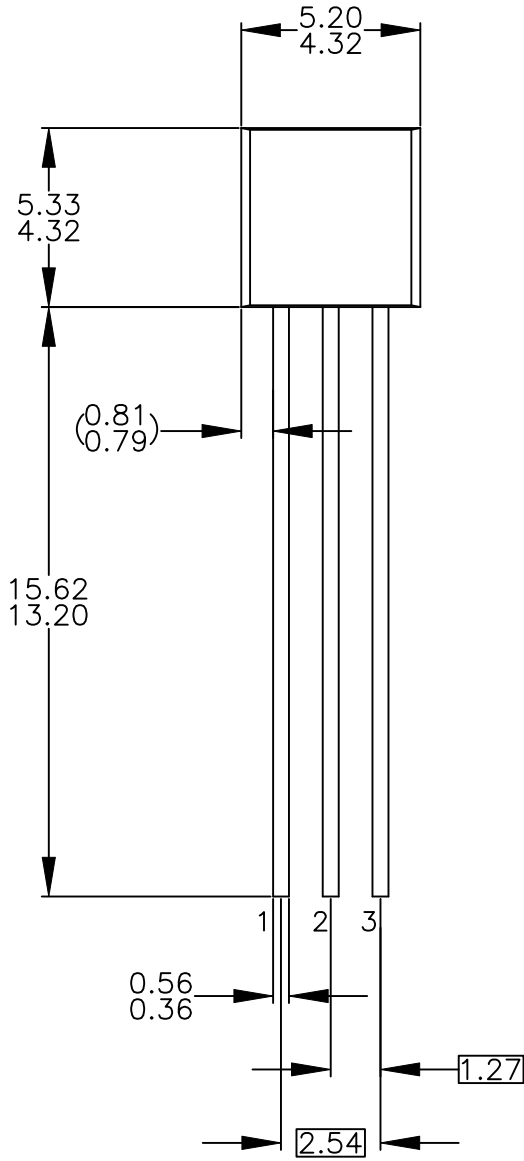


Figure 6. Current Gain Bandwidth Product



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- B. ALL DIMENSIONS ARE IN MILLIMETERS.
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- E. FAIRCHILD SEMICONDUCTOR.



NOTES: UNLESS OTHERWISE SPECIFIED






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