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November 2014

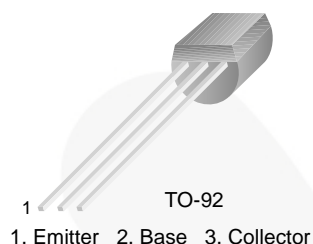
SS8550 — PNP Epitaxial Silicon Transistor

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⁽¹⁾

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°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

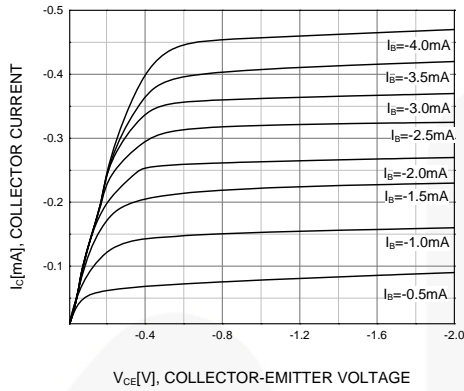


Figure 1. Static Characteristic

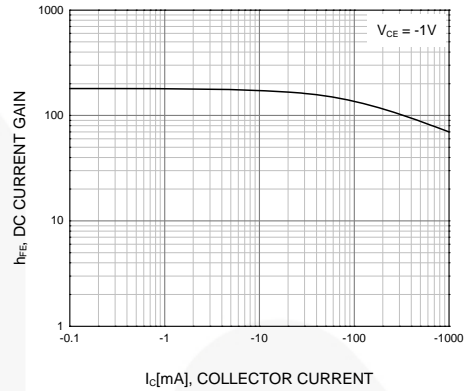


Figure 2. DC Current Gain

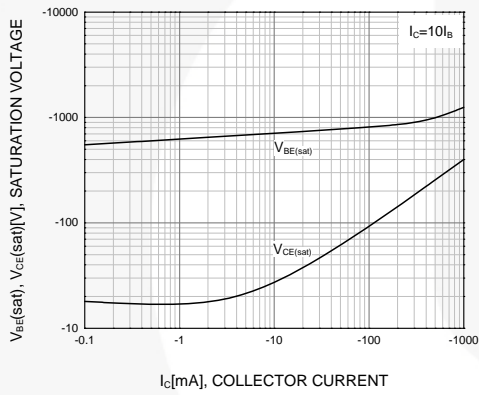


Figure 3. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage

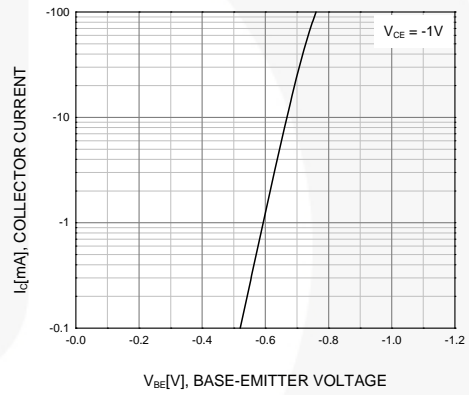


Figure 4. Base-Emitter On Voltage

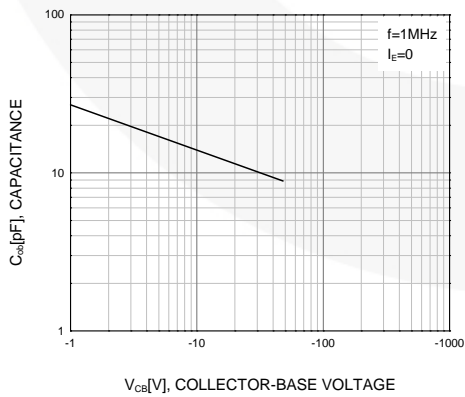


Figure 5. Collector Output Capacitance

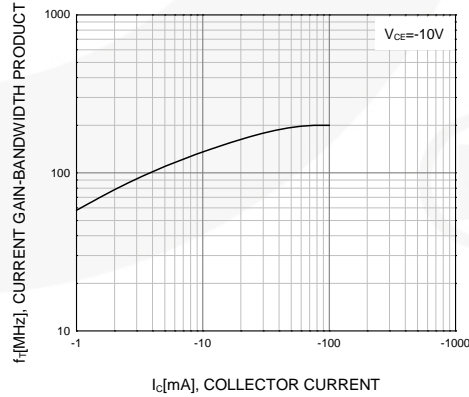
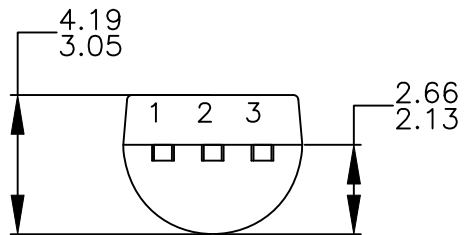
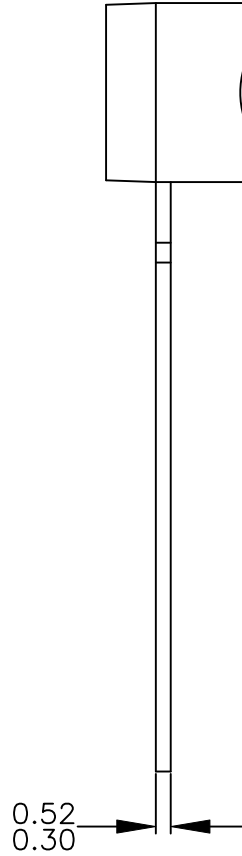


Figure 6. Current Gain Bandwidth Product



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- B. ALL DIMENSIONS ARE IN MILLIMETERS.
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