

# STC8550

PNP Silicon Transistor

## 2W Output Amplifier of Portable Radios in Class B Push-pull Operation.

- Complimentary to STC8050
- Collector Current:  $I_C=1.5A$
- Collector Power Dissipation:  $P_C=2W$  ( $T_C=25^\circ C$ )



TO-92  
1. Emitter 2. Base 3. Collector

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current	-1.5	A
$P_C$	Collector Power Dissipation	1	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-65 ~ 150	$^\circ C$

### Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu A, I_E = 0$	-40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -2mA, I_B = 0$	-40			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu A, I_C = 0$	-6			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -35V, I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -6V, I_C = 0$			-100	nA
$h_{FE1}$ $h_{FE2}$ $h_{FE3}$	DC Current Gain	$V_{CE} = -1V, I_C = -5mA$ $V_{CE} = -1V, I_C = -100mA$ $V_{CE} = -1V, I_C = -800mA$	45 85 40	170 160 80	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -800mA, I_B = -80mA$		-0.28	-0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -800mA, I_B = -80mA$		-0.98	-1.2	V
$V_{BE(on)}$	Base-Emitter on Voltage	$V_{CE} = -1V, I_C = -10mA$		-0.66	-1.0	V
$C_{ob}$	Output Capacitance	$V_{CB} = -10V, I_E = 0$ $f = 1MHz$		15		pF
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10V, I_C = -50mA$	100	200		MHz

### $h_{FE}$ Classification

Classification	A	B	C
$h_{FE2}$	85 ~ 160	120 ~ 200	200 ~ 400

# Typical Characteristics

# STC8550

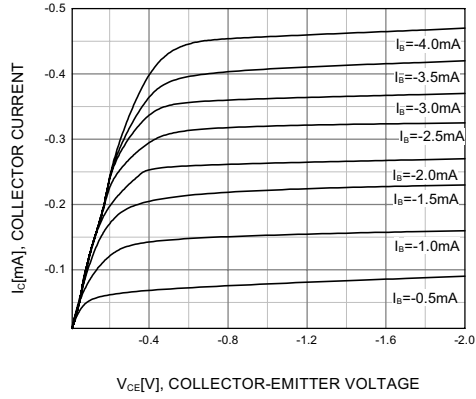


Figure 1. Static Characteristic

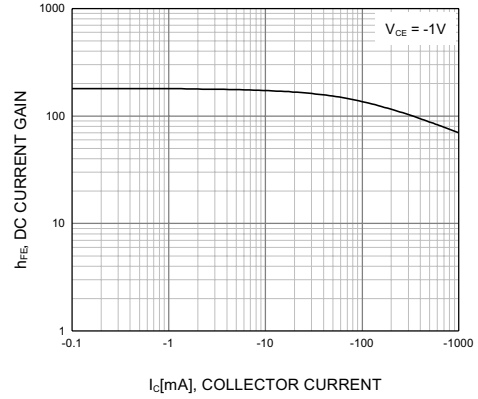


Figure 2. DC current Gain

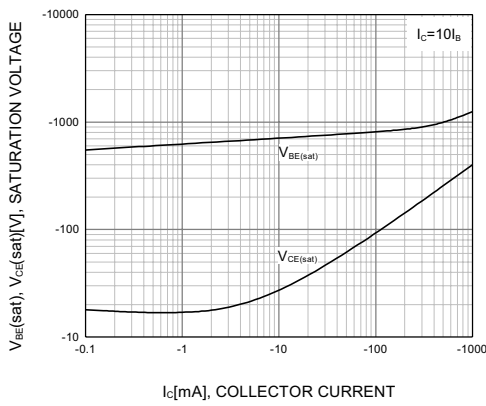


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

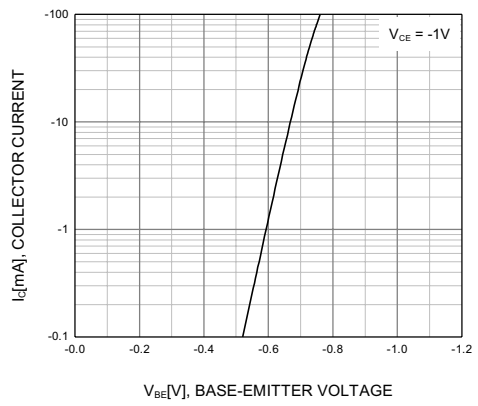


Figure 4. Base-Emitter On Voltage

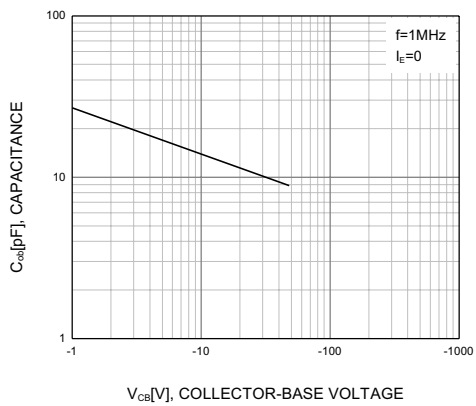


Figure 5. Collector Output Capacitance

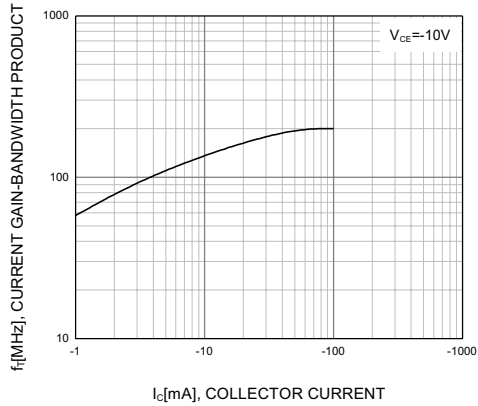


Figure 6. Current Gain Bandwidth Product