

STC8050

NPN Silicon Transistor

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

- Complimentary to STC8550
- 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

NPN 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

STC8050

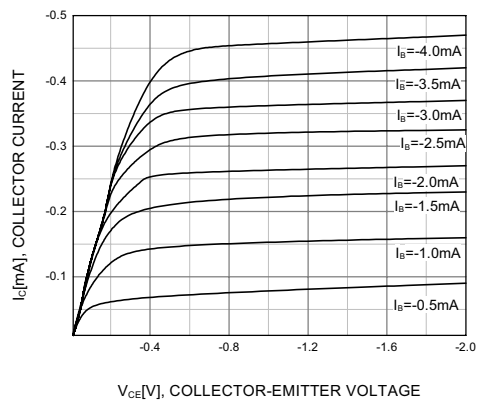


Figure 1. Static Characteristic

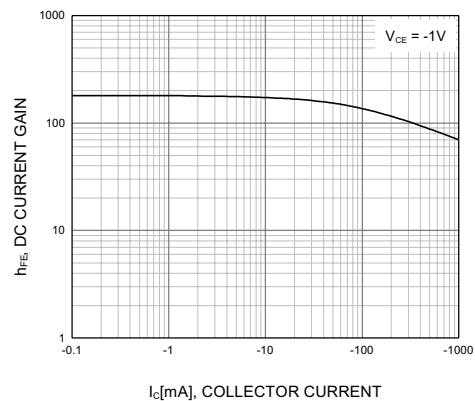


Figure 2. DC current Gain

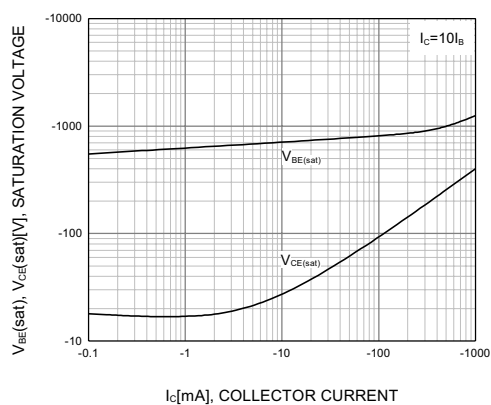


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

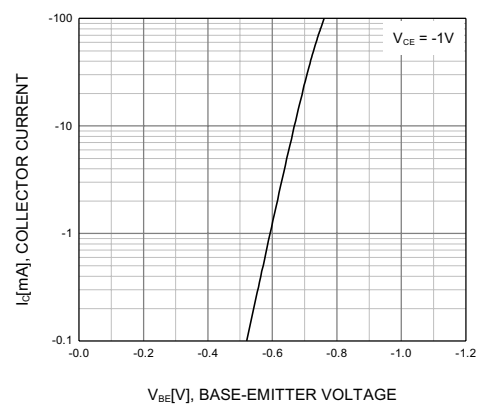


Figure 4. Base-Emitter On Voltage

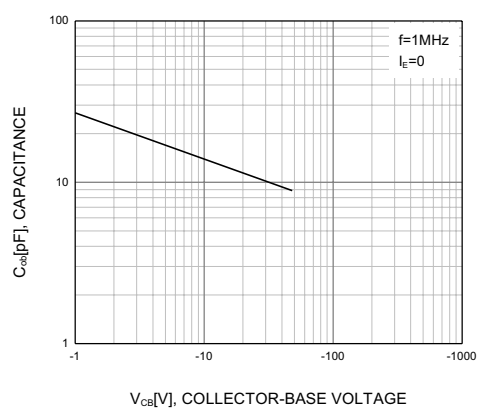


Figure 5. Collector Output Capacitance

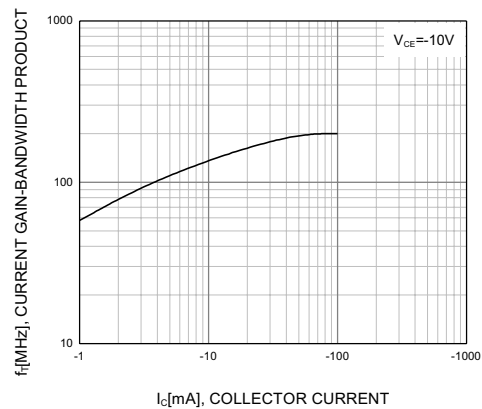


Figure 6. Current Gain Bandwidth Product