



Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

H9013

1W OUTPUT AMPLIFIER OF POTABLE RADIOS IN CLASS

B PUSH-PULL OPERATION.

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg} —Storage Temperature..... $-55\sim 150^{\circ}\text{C}$

T_j —Junction Temperature..... 150°C

P_C —Collector Dissipation..... 625mW

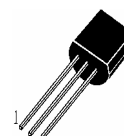
V_{CBO} —Collector-Base Voltage..... 40V

V_{CEO} —Collector-Emitter Voltage..... 20V

V_{EBO} —Emitter-Base Voltage..... 5V

I_C —Collector Current..... 500mA

TO-92



1—Emitter, E

2—Base, B

3—Collector, C

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
I_{CBO}	Collector Cut-off Current			100	nA	$V_{\text{CB}}=25\text{V}$, $I_{\text{E}}=0$
I_{EBO}	Emitter Cut-off Current			100	nA	$V_{\text{EB}}=3\text{V}$, $I_{\text{C}}=0$
$H_{\text{FE}}(1)$	DC Current Gain	78		246		$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=50\text{mA}$
$H_{\text{FE}}(2)$		40				$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=500\text{mA}$
$V_{\text{CE}}(\text{sat})$	Collector- Emitter Saturation Voltage			600	mV	$I_{\text{C}}=500\text{mA}$, $I_{\text{B}}=50\text{mA}$
$V_{\text{BE}}(\text{sat})$	Base-Emitter Saturation Voltage			1.2	V	$I_{\text{C}}=500\text{mA}$, $I_{\text{B}}=50\text{mA}$
$V_{\text{BE}}(\text{ON})$	Base-Emitter On Voltage	600		730	mV	$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=10\text{mA}$
B_{VCBO}	Collector-Base Breakdown Voltage	40			V	$I_{\text{C}}=100\mu\text{A}$, $I_{\text{E}}=0$
B_{VCEO}	Collector-Emitter Breakdown Voltage	20			V	$I_{\text{C}}=1\text{mA}$, $I_{\text{B}}=0$
B_{VEBO}	Emitter-Base Breakdown Voltage	5			V	$I_{\text{E}}=100\mu\text{A}$, $I_{\text{C}}=0$

h_{FE} Classification

E	F	G	H	I
78—112	96—135	112—166	144—202	176—246



Typical Characteristics

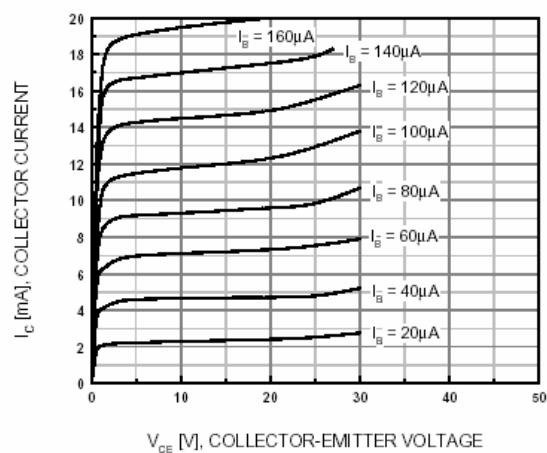


Figure 1. Static Characteristic

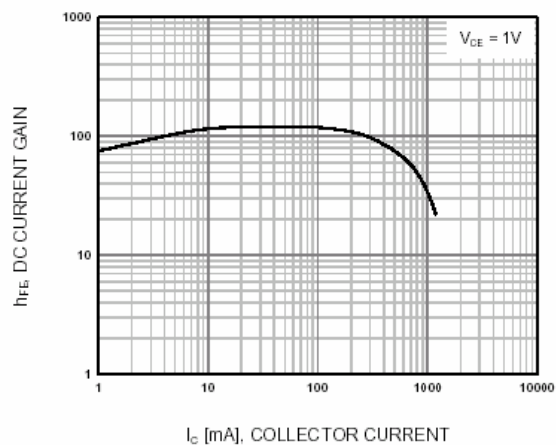


Figure 2. DC current Gain

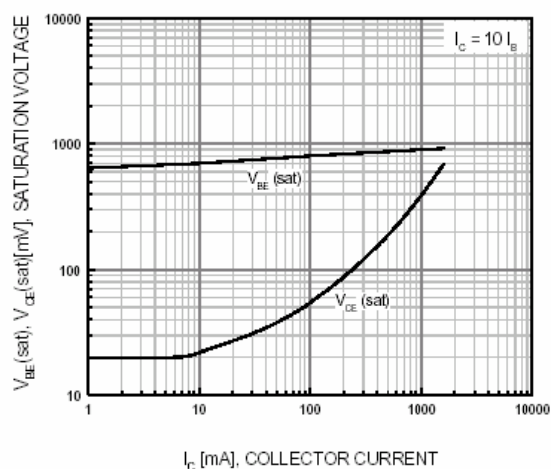


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

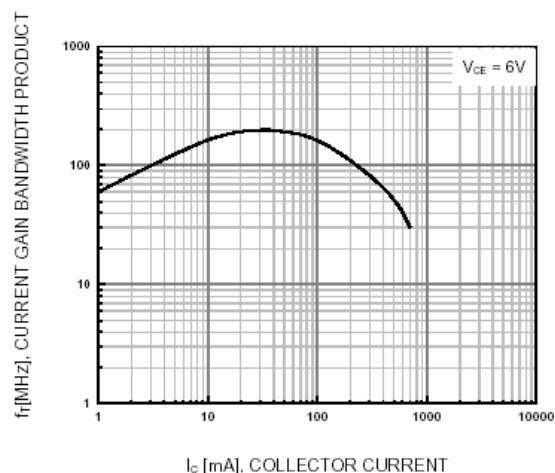


Figure 4. Current Gain Bandwidth Product