



NPN EPITAXIAL SILICON TRANSISTOR

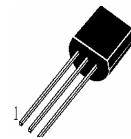
2W OUTPUT AMPLIFIER PORTABLE RADIO IN CLASS

B PUSH-PULL OPERATION.

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

T_{stg}	Storage Temperature	-55~150 $^{\circ}\text{C}$
T_j	Junction Temperature	150 $^{\circ}\text{C}$
P_C	Collector Dissipation	1W
V_{CBO}	Collector-Base Voltage	40V
V_{CEO}	Collector-Emitter Voltage	25V
V_{EBO}	Emitter-Base Voltage	6V
I_C	Collector Current	1.5A

TO-92



- 1—Emitter, E
- 2—Collector, C
- 3—Base, B

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

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
I_{CBO}	Collector Cut-off Current			0.1	μA	$V_{\text{CB}}=35\text{V}$, $I_{\text{E}}=0$
I_{EBO}	Emitter Cut-off Current			0.1	μA	$V_{\text{EB}}=6\text{V}$, $I_{\text{C}}=0$
H_{FE}	DC Current Gain	85 40		500		$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=100\text{mA}$ $V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=800\text{mA}$
V_{BE}	Base- Emitter Voltage			1	V	$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=10\text{mA}$
$V_{\text{CE(sat)}}$	Collector- Emitter Saturation Voltage			0.5	V	$I_{\text{C}}=800\text{mA}$, $I_{\text{B}}=80\text{mA}$
$V_{\text{BE(sat)}}$	Base- Emitter Saturation Voltage			1.2	V	$I_{\text{C}}=800\text{mA}$, $I_{\text{B}}=80\text{mA}$
BV_{CBO}	Collector-Base Breakdown Voltage	40			V	$I_{\text{C}}=100\mu\text{A}$, $I_{\text{E}}=0$
BV_{CEO}	Collector-Emitter Breakdown Voltage	25			V	$I_{\text{C}}=2\text{mA}$, $I_{\text{B}}=0$
BV_{EBO}	Emitter- Base Breakdown Voltage	6			V	$I_{\text{E}}=100\mu\text{A}$, $I_{\text{C}}=0$
f_{T}	Current Gain-Bandwidth Product	100			MHz	$V_{\text{CE}}=10\text{V}$, $I_{\text{C}}=50\text{mA}$

h_{FE} Classification

B

C

D

E

85—160

120—200

160—300

270—500



Typical Characteristics

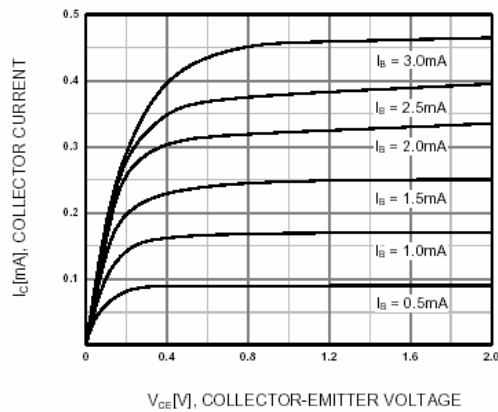


Figure 1. Static Characteristic

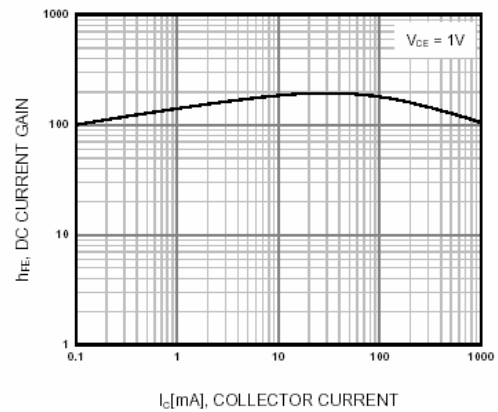


Figure 2. DC current Gain

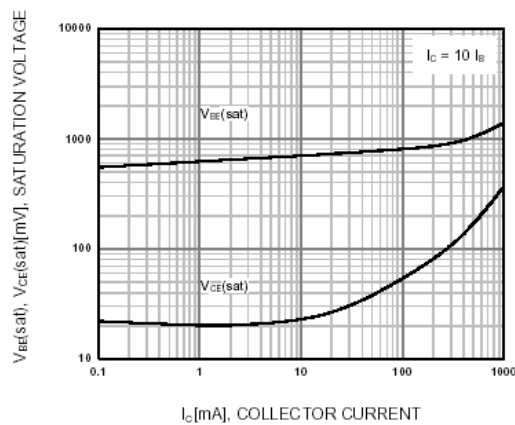


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

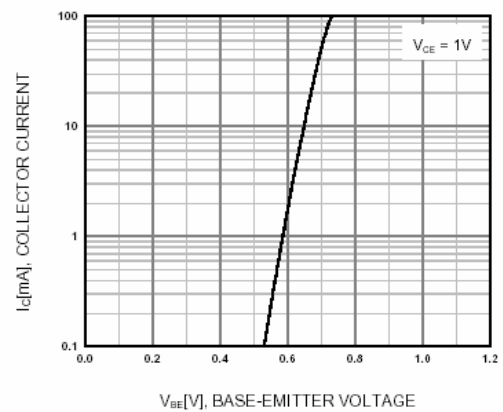


Figure 4. Base-Emitter On Voltage

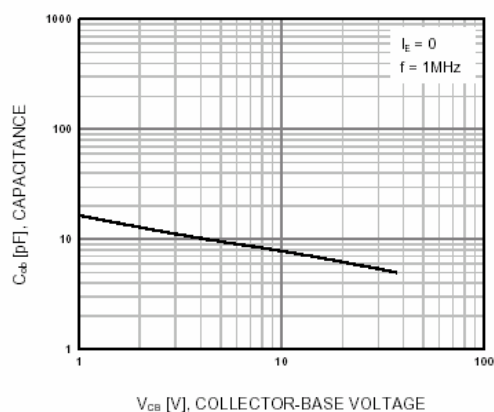


Figure 5. Collector Output Capacitance

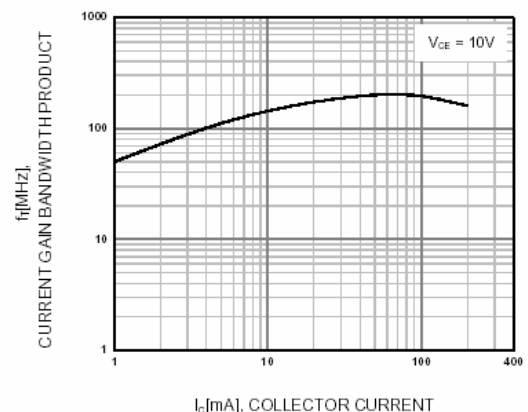


Figure 6. Current Gain Bandwidth Product