Shantou Huashan Electronic Devices Co.,Ltd.

NPN SILICON TRANSISTOR

HC1061

APPLICATIONS

Low Frequency Power Amplifier.

ABSOLUTE MAXIMUM RATINGS（T_a=25℃）

T_{stg}——Storage Temperature····· −65~150℃

T_j——Junction Temperature····· 150℃

P_C——Collector Dissipation（T_c=25℃）····· 25W

V_{CBO}——Collector-Base Voltage·····50V

V_{CEO}——Collector-Emitter Voltage····· 50V

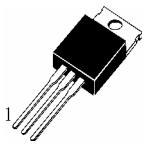
V_{EBO}——Emitter-Base Voltage····· 4V

I_C——Collector Current····· 3.0A

I_{CM}——Collector Current（Peak）····· 8A

Ib——Base Current·····0.5A

TO-220



1－Base，B
2－Collector，C
3－Emitter, E

ELECTRICAL CHARACTERISTICS（T_a=25℃）

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CEO}	Collector-Emitter Breakdown Voltage	50			V	I_C=50mA, I_B=0
BV_{CBO}	Collector-Base Breakdown Voltage	50			V	I_C=5mA, I_E=0
BV_{EBO}	Emitter-Base Breakdown Voltage	4			V	I_E=5mA，I_C=0
I_{CBO}	Collector Cut-off Current			100	μA	V_{CB}=25V, I_E=0
I_{EBO}	Emitter Cut-off Current			100	μA	V_{EB}=4V, I_C=0
H_{FE}（1）	DC Current Gain	35		320		V_{CE}=4V, I_C=1A
H_{FE}（2）	DC Current Gain	35				V_{CE}=4V, I_C=0.1A
$V_{CE(sat)}$	Collector- Emitter Saturation Voltage			1.0	V	I_C=2A, I_B=0.2A
$V_{BE(on)}$	Base-Emitter On Voltage			1.5	V	V_{CE}=4V, I_C=1A
ft	Current Gain-Bandwidth Product	5.0			MHz	V_{CE}=4V, I_C=0.5A, f=1MHz

h_{FE} Classification

A	B	C	D
35—70	60—120	100—200	160—320

HC1061

Ic - Vce

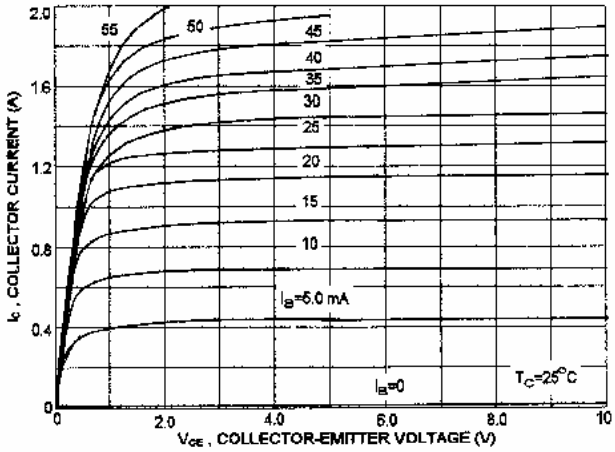
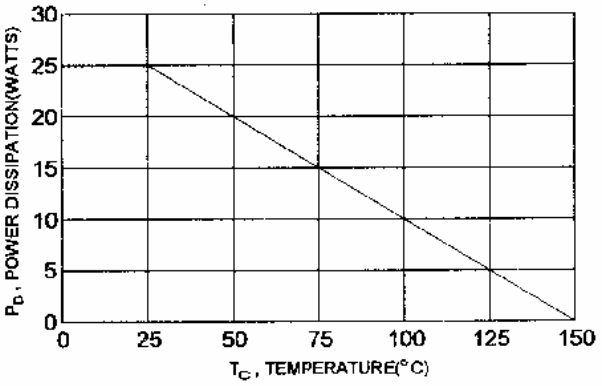
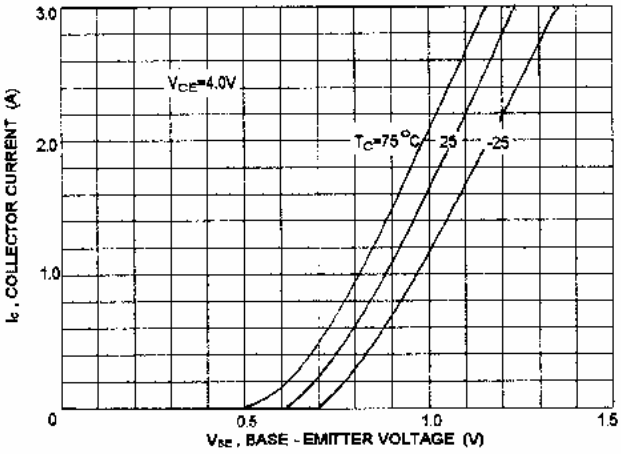


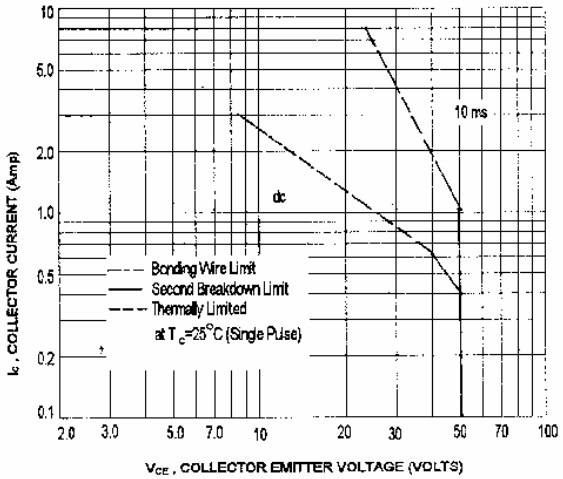
FIGURE -1 POWER DERATING



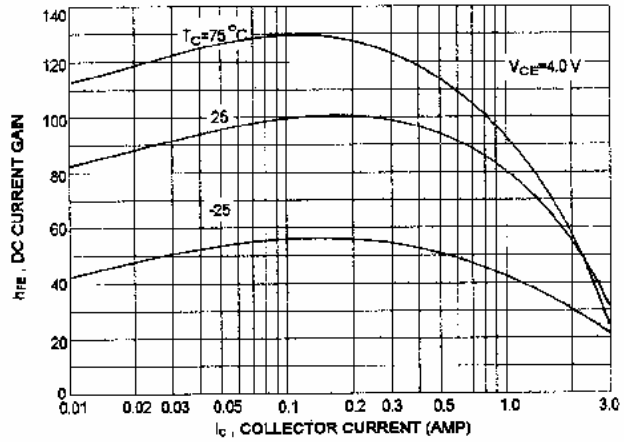
Ic - Vbe



ACTIVE-REGION SAFE OPERATING AREA (SOA)



DC CURRENT GAIN



There are two limitation on the power handling ability of a transistor:average junction temperature and second breakdown safe operating area curves indicate I_C-V_{CE} limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

The data of SOA curve is base on $T_{J(PK)}$=150 °C;T_C is variable depending on conditions. second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)}$≤150°C.At high case temperatures, thermal limita - tion will reduce the power that can be handled to values less than the limitations imposed by second breakdown.