Shantou Huashan Electronic Devices Co.,Ltd.

PNP SILICON TRANSISTOR

H1020S

APPLICATIONS

power amplifier Applications,
power Switching Applications.

ABSOLUTE MAXIMUM RATINGS（T_a=25℃）

T_{stg}——Storage Temperature…… -55~150℃

T_j——Junction Temperature……150℃

P_C——Collector Dissipation……750mW

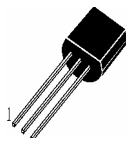
V_{CBO}——Collector-Base Voltage……-50V

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

V_{EBO}——Emitter-Base Voltage……-5V

I_C——Collector Current……-2A

TO-92



1—Emitter，E
2—Collector，C
3—Base，B

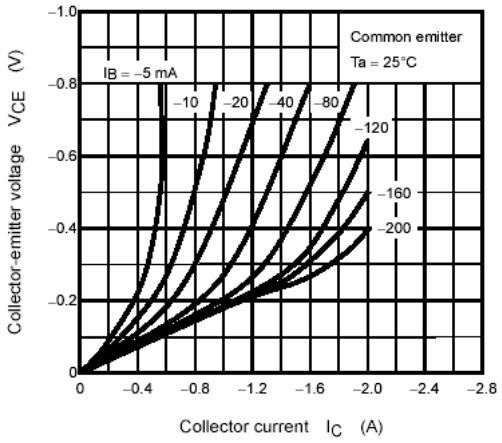
ELECTRICAL CHARACTERISTICS（T_a=25℃）

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CBO}	Collector-Base Breakdown Voltage	−50			V	I_C=-100μA, I_E=0
BV_{CEO}	Collector-Emitter Breakdown Voltage	−50			V	I_C=-10mA, I_B=0
BV_{EBO}	Emitter-Base Breakdown Voltage	−5			V	I_E=-100μA，I_C=0
I_{CBO}	Collector Cut-off Current			−1.0	μA	V_{CB}=-50V, I_E=0
I_{EBO}	Emitter Cut-off Current			−1.0	μA	V_{EB}=-5V, I_C=0
$H_{FE(1)}$	DC Current Gain	70		240		V_{CE}=-2V, I_C=-0.5A
$H_{FE(2)}$		40				V_{CE}=-2V, I_C=-1.5A
$V_{CE(sat)}$	Collector- Emitter Saturation Voltage			−0.5	V	I_C=-1A, I_B=-50mA
$V_{BE(sat)}$	Base-Emitter Saturation Voltage			−1.2	V	I_C=-1A, I_B=-50mA
f_T	Current Gain-Bandwidth Product		100		MHz	V_{CE}=-2V, I_C=-0.5A
Cob	Output Capacitance		40		pF	V_{CB}=-10V, I_E=0，f=1MHz
t_{ON}	Turn-on Time		0.1		μS	
t_{STG}	Storage Time		1.0		μS	See specified test circuit
t_F	Fall Time		0.1		μS	

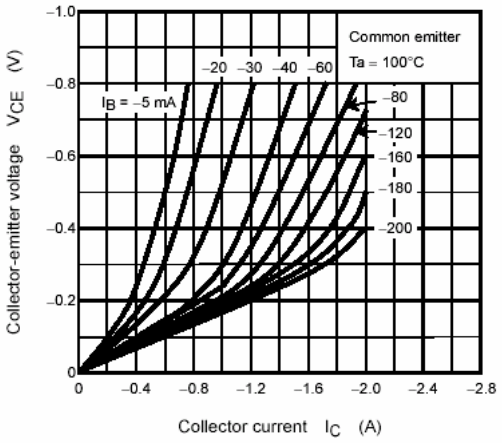
h_{FE} Classification

O	Y
70—140	120—240

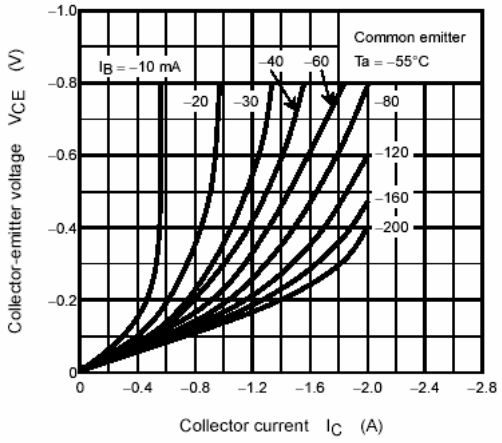
$V_{CE} - I_C$



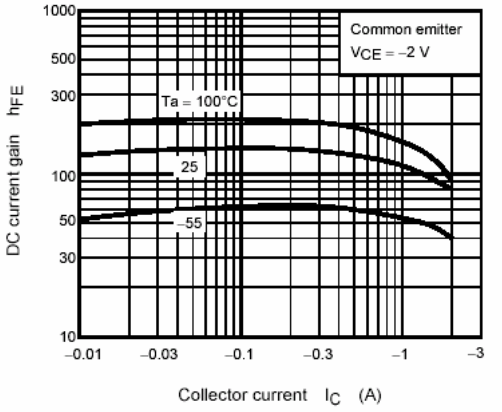
$V_{CE} - I_C$



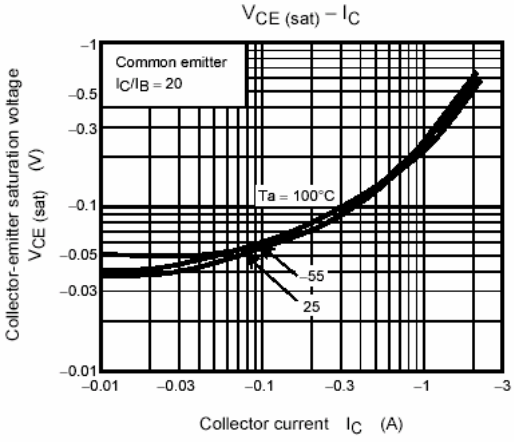
$V_{CE} - I_C$



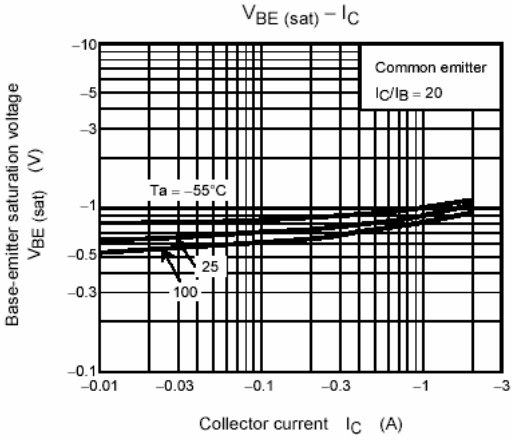
$h_{FE} - I_C$



$V_{CE\ (sat)} - I_C$



$V_{BE\ (sat)} - I_C$



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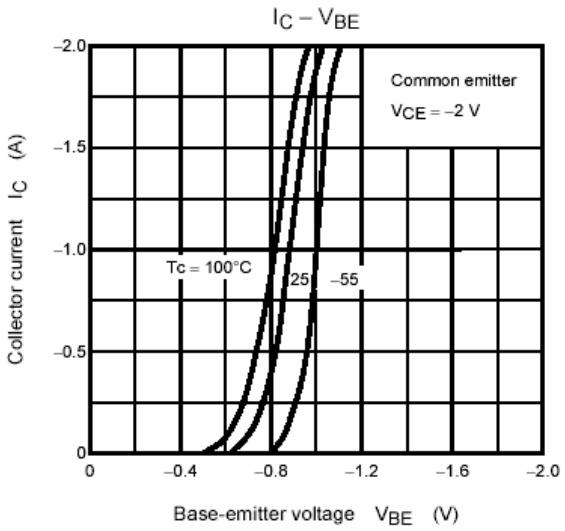
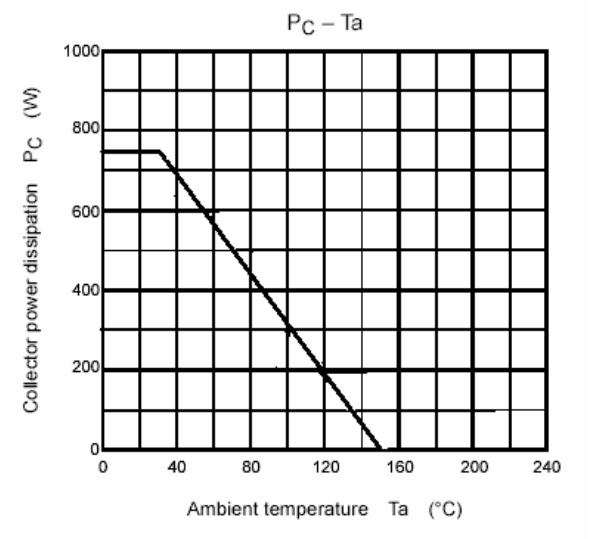
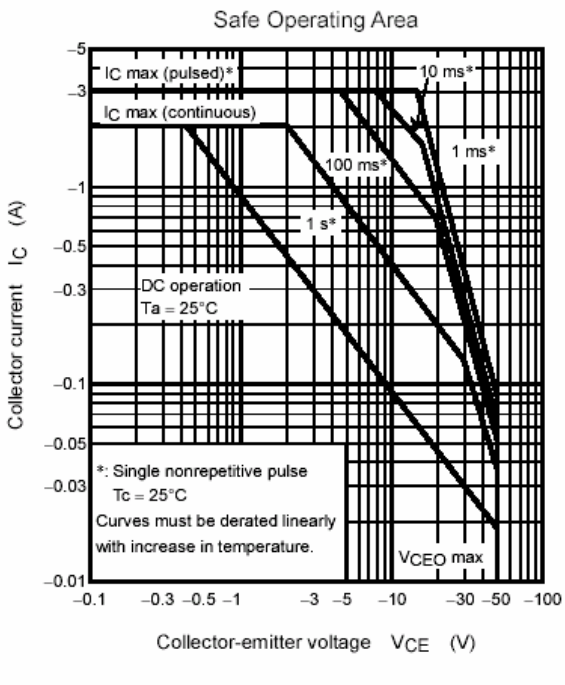

$I_C - V_{BE}$
Common emitter
$V_{CE} = -2$ V
Tc = 100°C
25
−55
Collector current I_C (A)
Base-emitter voltage V_{BE} (V)
−2.0
−1.5
−1.0
−0.5
0
−0.4
−0.8
−1.2
−1.6
−2.0


$P_C - Ta$
Collector power dissipation P_C (W)
Ambient temperature Ta (°C)
1000
800
600
400
200
0
40
80
120
160
200
240


Safe Operating Area
I_C max (pulsed)*
I_C max (continuous)
10 ms*
1 ms*
100 ms*
1 s*
DC operation
Ta = 25°C
*: Single nonrepetitive pulse
Tc = 25°C
Curves must be derated linearly
with increase in temperature.
V_{CEO} max
Collector current I_C (A)
Collector-emitter voltage V_{CE} (V)
−5
−3
−1
−0.5
−0.3
−0.1
−0.05
−0.03
−0.01
−0.1
−0.3
−0.5
−1
−3
−5
−10
−30
−50
−100