



**Shantou Huashan Electronic Devices Co.,Ltd.**

NPN SILICON TRANSISTOR

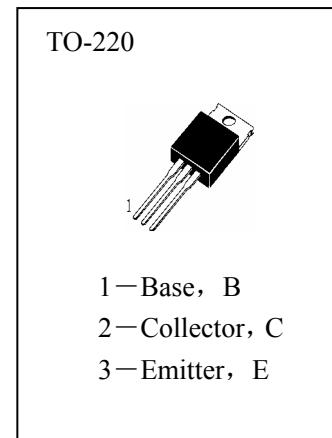
**HBU406H**

## ■ APPLICATIONS

High Voltage Swtching .

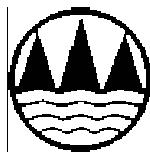
## ■ ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

$T_{stg}$ —Storage Temperature.....	-55~150°C
$T_j$ —Junction Temperature.....	150°C
$P_c$ —Collector Dissipation( $T_c=25^\circ\text{C}$ ).....	60W
$V_{CBO}$ —Collector-Base Voltage.....	400V
$V_{CEO}$ —Collector-Emitter Voltage.....	200V
$V_{EBO}$ —Emitter-Base Voltage.....	6V
$I_c$ —Collector Current (DC) .....	7A
$I_{CP}$ —Collector Current(Pulse).....	10A
$I_b$ —Base Current.....	4A



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

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
$I_{CES(1)}$	Collector Cut-off Current			5	mA	$V_{CE}=400\text{V}, V_{EB}=0$
$I_{CES(2)}$				100	$\mu\text{A}$	$V_{CE}=250\text{V}, V_{EB}=0$
$I_{CES(3)}$				1	mA	$V_{CE}=250\text{V}, V_{EB}=0$ ( $T_c=125^\circ\text{C}$ )
$I_{EBO}$	Emitter Cut-off Current			1	mA	$V_{EB}=6\text{V}, I_c=0$
$HFE$	DC Current Gain	10				$V_{CE}=1\text{V}, I_c=5\text{A}$
$V_{CE(sat)}$	Collector- Emitter Saturation Voltage			1	V	$I_c=5\text{A}, I_b=0.8\text{A}$
$V_{BE(on)}$	Base-Emitter On Voltage			1.2	V	$V_{CE}=5\text{V}, I_c=0.8\text{A}$
$f_T$	Current Gain-Bandwidth Product	10			MHz	$V_{CE}=10\text{V}, I_c=0.5\text{A}$
$t_{OFF}$	Turn OFF Time			0.4	$\mu\text{s}$	$I_c=5\text{A}, I_b=0.8\text{A}$



Shantou Huashan Electronic Devices Co.,Ltd.

**HBU406H**

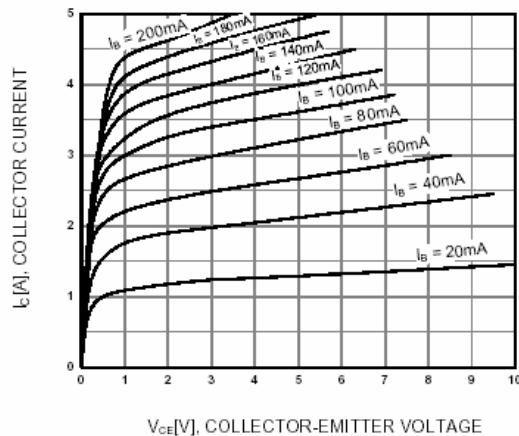


Figure 1. Static Characteristic

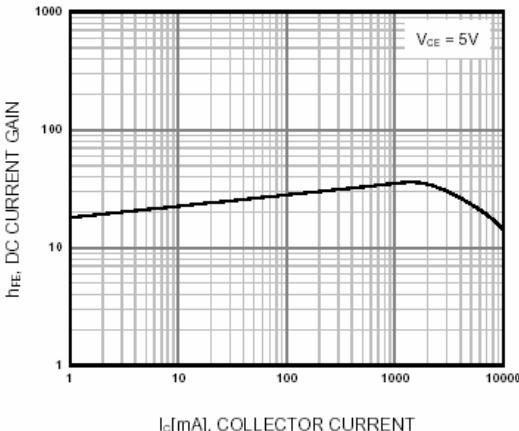


Figure 2. DC current Gain

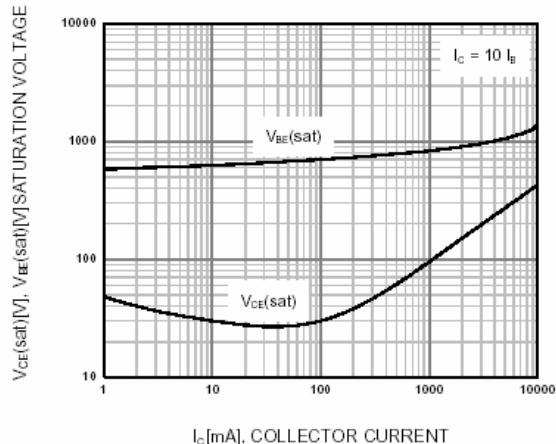


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

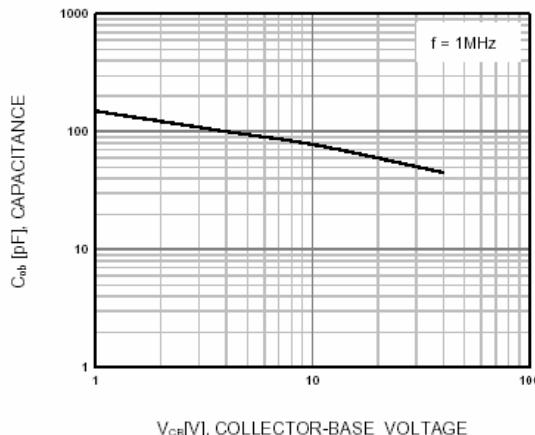


Figure 4. Collector Output Capacitance

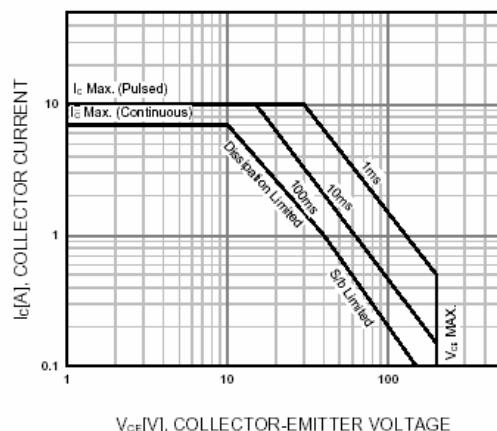


Figure 5. Safe Operating Area

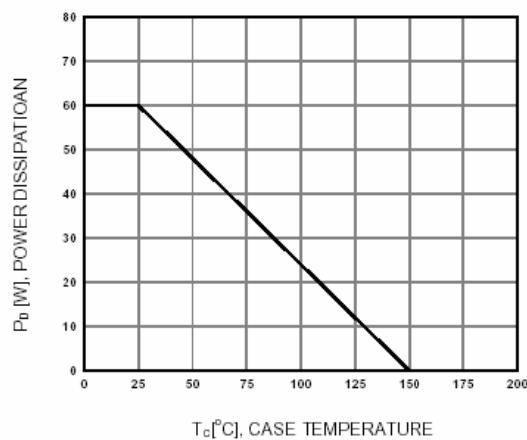


Figure 6. Power Derating