

**BU406**

**NPN Silicon Transistor**

**High Voltage Switch Mode Application**

DRAWING



1.Base 2.Collector 3.Emitter

**Features**

- ③ High Speed Switching
- ③ Suitable for Electronic Ballast and Switching Regulator
- ③ Case:TO-220C

**Absolute Maximum Ratings (Ta=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	400	V
V <sub>CEO</sub>	Collector-Emitter Voltage	200	V
V <sub>EBO</sub>	Emitter-Base Voltage	9	V
I <sub>C</sub>	Collector Current(DC)	7	A
I <sub>CP</sub>	Collector Current(Pulse)	10	A
I <sub>B</sub>	Base Current	4	A
P <sub>C</sub>	Collector Dissipation(Tc=25°C)	60	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55~150	°C

**Electrical Characteristics (Tc=25°C unless otherwise noted)**

Symbol	Parameter	Conditions	Min	Typ	Max	Units
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =10mA, I <sub>B</sub> =0	400			V
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> =9V, I <sub>C</sub> =0			10	uA
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =400V, I <sub>E</sub> =0			0.1	uA
I <sub>CEO</sub>	current tunneling	V <sub>CE</sub> =200V, I <sub>B</sub> =0			50	uA
h <sub>fe1</sub>	DC Current Gain	V <sub>CE</sub> =5V, I <sub>C</sub> =2A	55		85	
h <sub>fe2</sub>		V <sub>CE</sub> =5V, I <sub>C</sub> =7A	15			
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> =5A, I <sub>B</sub> =0.5A			1	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> =5A, I <sub>B</sub> =0.5A			1.2	V
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> =10V, I <sub>C</sub> =0.5A	10			MHz
t <sub>off</sub>	Turn-off time	I <sub>C</sub> =5A, I <sub>B</sub> =0.5A			0.75	us

Pulse Test:PW≤300us,Duty Cycle≤2%

Thermal Performance Characteristics

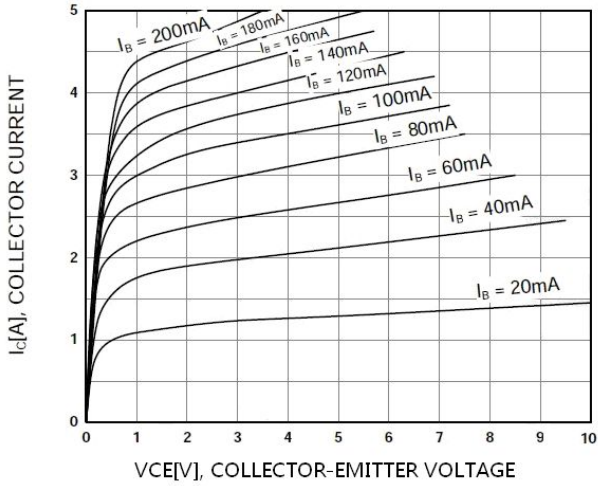


Figure 1. Static Characteristic

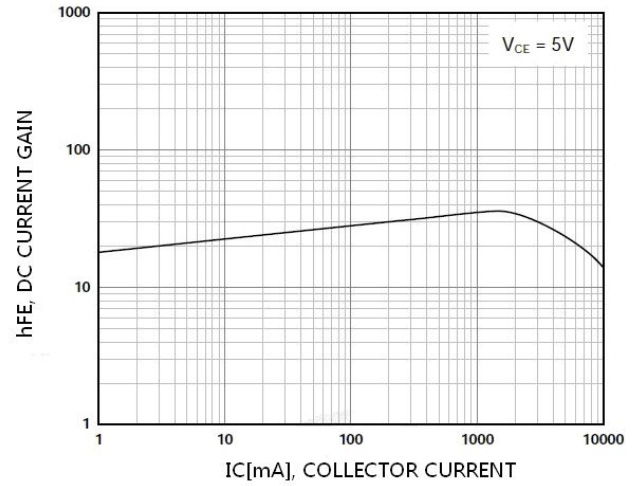


Figure 2. DC Current Gain

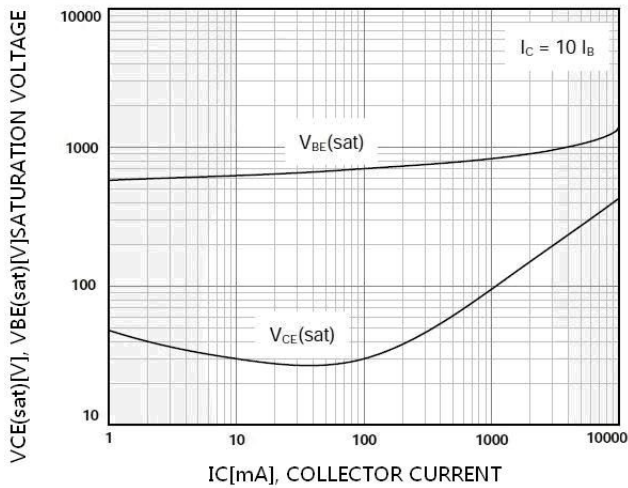


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

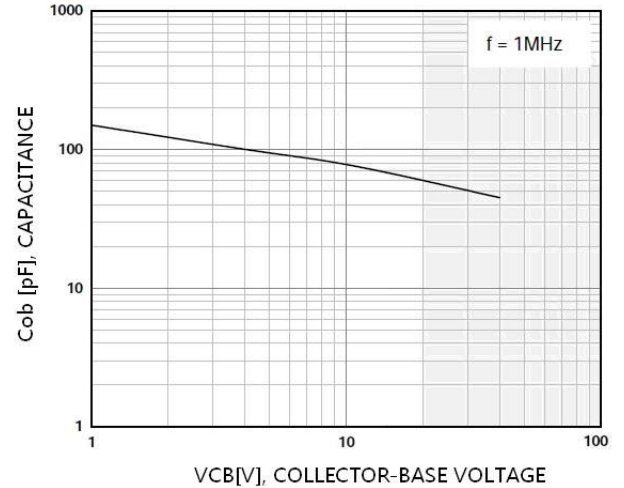


Figure 4. Collector Output Capacitance

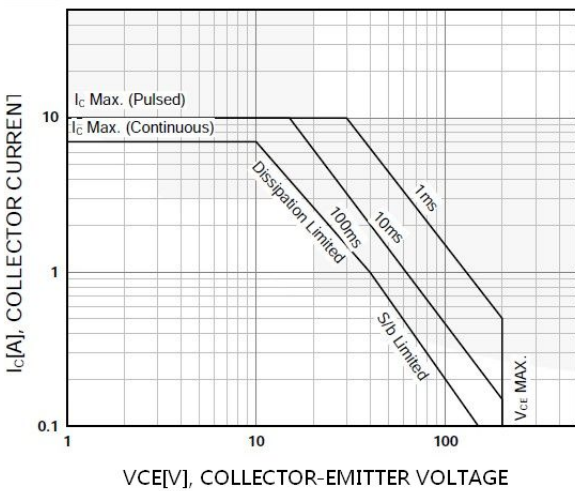


Figure 5. Safe Operating Area

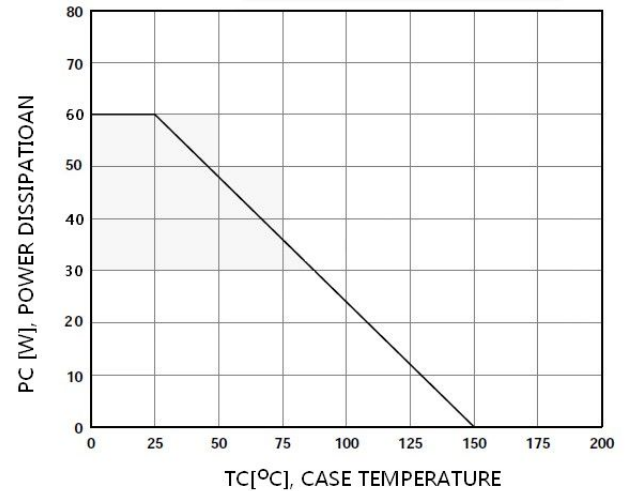


Figure 6. Power Derating

Mechanical Dimensions

