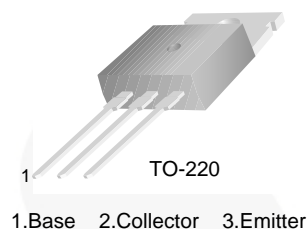


BU406 / 406H / 408

NPN Epitaxial Silicon Transistor

Features

- High-Voltage Switching
- Use In Horizontal Deflection Output Stage



Ordering Information

Part Number	Marking	Package	Packing Method
BU406	BU406	TO-220 3L	Bulk
BU406TU	BU406	TO-220 3L	Rail

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_C = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	7	A
I_{CP}	Collector Current (Pulse)	10	A
I_B	Base Current	4	A
P_C	Collector Dissipation	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 to 150	$^\circ\text{C}$

Electrical CharacteristicsValues are at $T_C = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter		Test Condition	Min.	Max.	Units
I_{CES}	Collector Cut-Off Current		$V_{CE} = 400\text{ V}, V_{BE} = 0$		5	mA
			$V_{CE} = 250\text{ V}, V_{BE} = 0$		100	μA
			$V_{CE} = 250\text{ V}, V_{BE} = 0$ at $T_C = 150^\circ\text{C}$		1	mA
I_{EBO}	Emitter Cut-Off Current		$V_{BE} = 6\text{ V}, I_C = 0$		1	mA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BU406	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$		1	V
		BU406H	$I_C = 5\text{ A}, I_B = 0.8\text{ A}$		1	V
		BU408	$I_C = 6\text{ A}, I_B = 1.2\text{ A}$		1	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	BU406	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$		1.2	V
		BU406H	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$		1.2	V
		BU408	$I_C = 6\text{ A}, I_B = 1.2\text{ A}$		1.5	V
f_T	Current Gain Bandwidth Product		$V_{CE} = 10\text{ V}, I_C = 0.5\text{ A}$	10		MHz
t_{OFF}	Turn-Off Time	BU406	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$		0.75	μs
		BU406H	$I_C = 5\text{ A}, I_B = 0.8\text{ A}$		0.4	μs
		BU408	$I_C = 6\text{ A}, I_B = 1.2\text{ A}$		0.4	μs

Typical Performance Characteristics

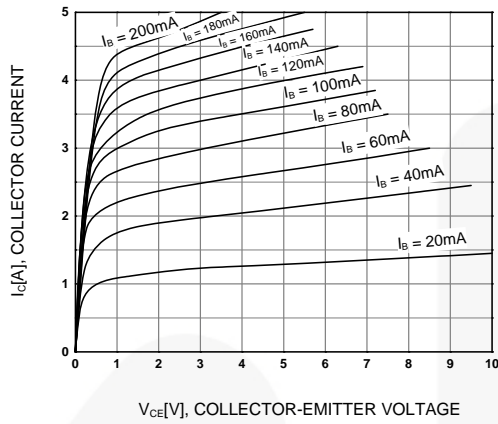


Figure 1. Static Characteristic

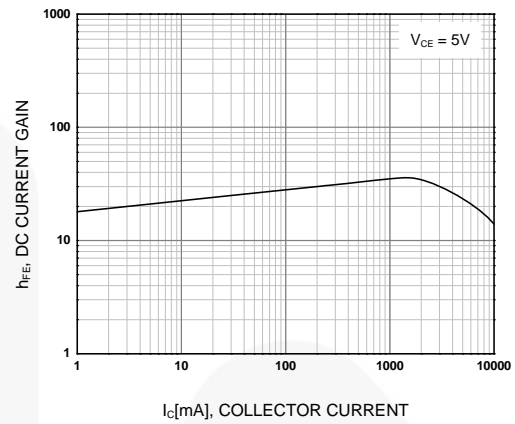


Figure 2. DC Current Gain

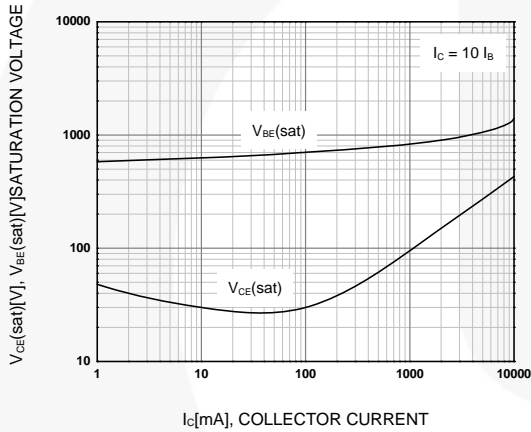


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

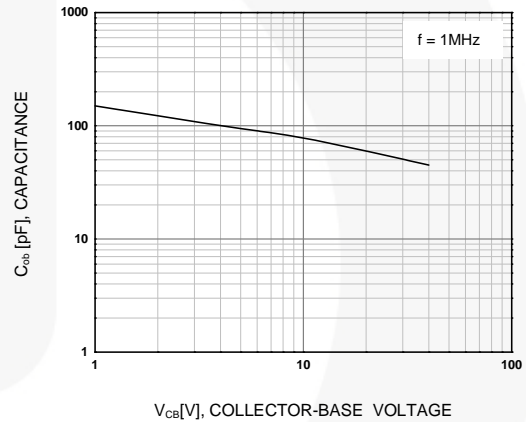


Figure 4. Collector Output Capacitance

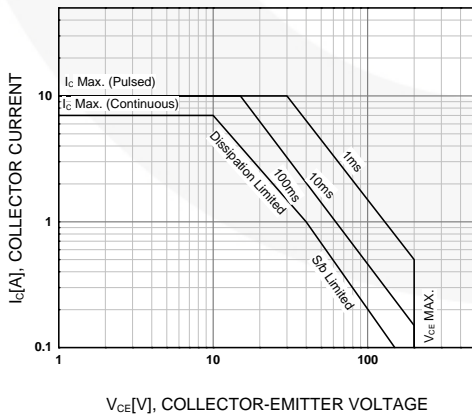


Figure 5. Safe Operating Area

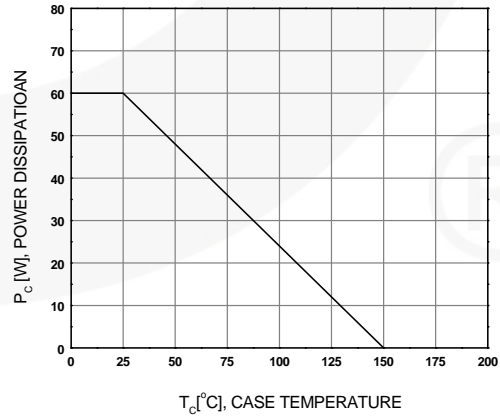


Figure 6. Power Derating

Physical Dimensions

TO-220

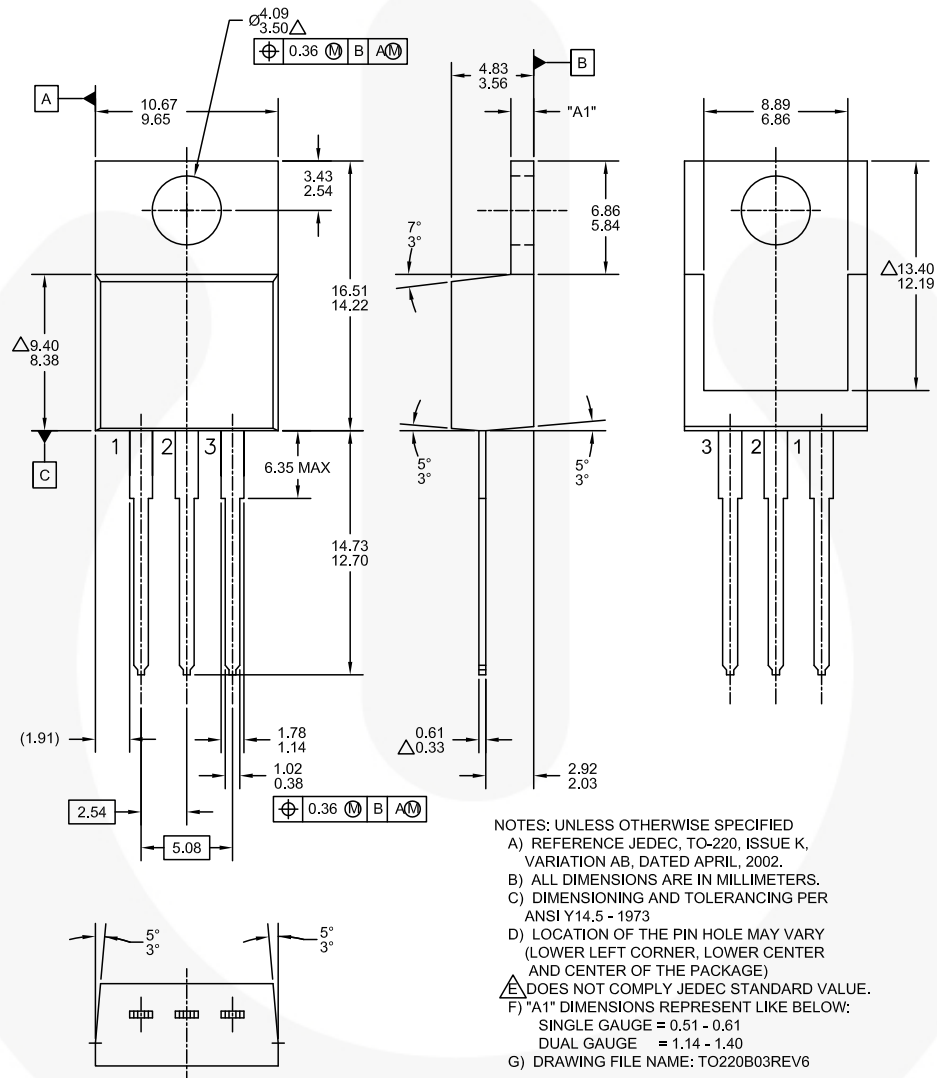


Figure 7. TO-220, MOLDED, 3-LEAD, JEDEC VARIATION AB

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CTL™	GTO™		TinyPWM™
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