



**THE DATASHEET OF
BU406D**





ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

BU406D Silicon NPN Transistor Power Amp, High Voltage, Switch TO-220 Type Package

Description:

The BU406D is a silicon NPN transistor in a TO-220 type package designed for high-voltage, high-speed horizontal deflection output stages of TVs and CRTs.

Features:

- Collector-Emitter Sustaining Voltage: $V_{CEV} = 400V$ (Min)
- Low Saturation Voltage: $V_{CE(sat)} = 1V$ (Max) @ $I_C = 5A$
- Fast Switching Speed: $t_f = 0.75\mu s$ (Max)

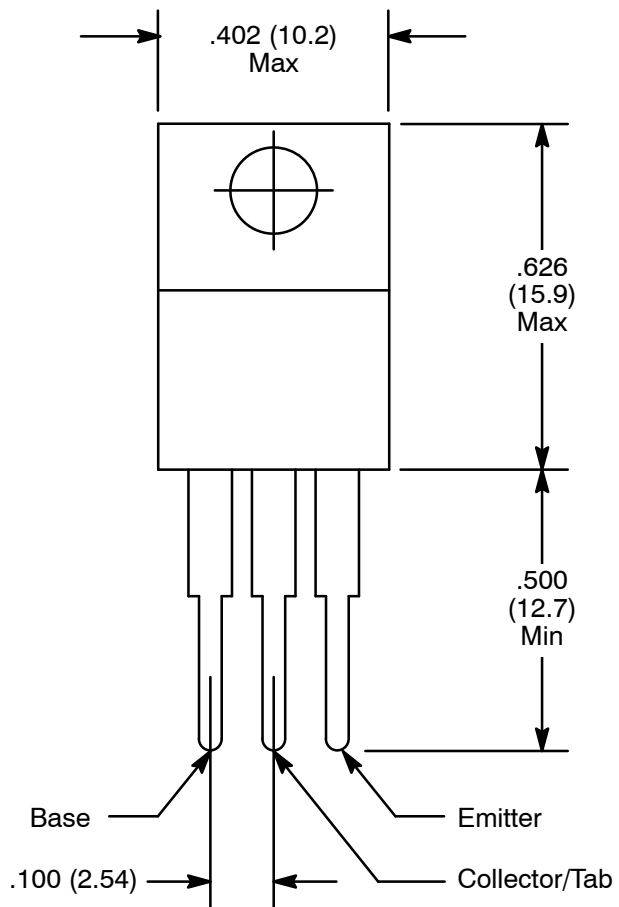
Absolute Maximum Ratings: ($T_A = +25^\circ C$ unless otherwise specified)

Collector-Emitter Voltage, V_{CEO}	200V
Collector-Emitter Voltage, V_{CEV}	400V
Collector-Base Voltage, V_{CBO}	400V
Emitter-Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	7A
Peak	10A
Continuous Base Current, I_B	4A
Total Power Dissipation ($T_C = +25^\circ C$), P_D	60W
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-65° to +150°C
Thermal Resistance, Junction-to-Case, R_{thJC}	2.08°C/W

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 50mA, I_B = 0$	200	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 650mA$	-	-	1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5A, I_B = 650mA$	-	-	1.3	V
DC Current Gain	h_{FE}	$I_C = 2A, V_{CE} = 5V$	-	15	-	
Collector Cutoff Current	I_{CEV}	$V_{CE} = 400V, V_{BE} = -1.5V$	-	-	15	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6V, I_C = 0$	-	-	400	mA
Current Gain-Bandwidth Product	f_T	$I_C = 500mA, V_{CE} = 10V, f = 1MHz$	10	-	-	MHz
Collector-Emitter Diode Forward Voltage	V_{CEF}	$I_F = 5A$	-	-	1.5	V
Fall Time	t_f	$V_{CC} = 40V, I_C = 5A, -I_{B1} = 650mA$	-	-	0.75	μs

Note 1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.



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