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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 = 0.75μs (Max)

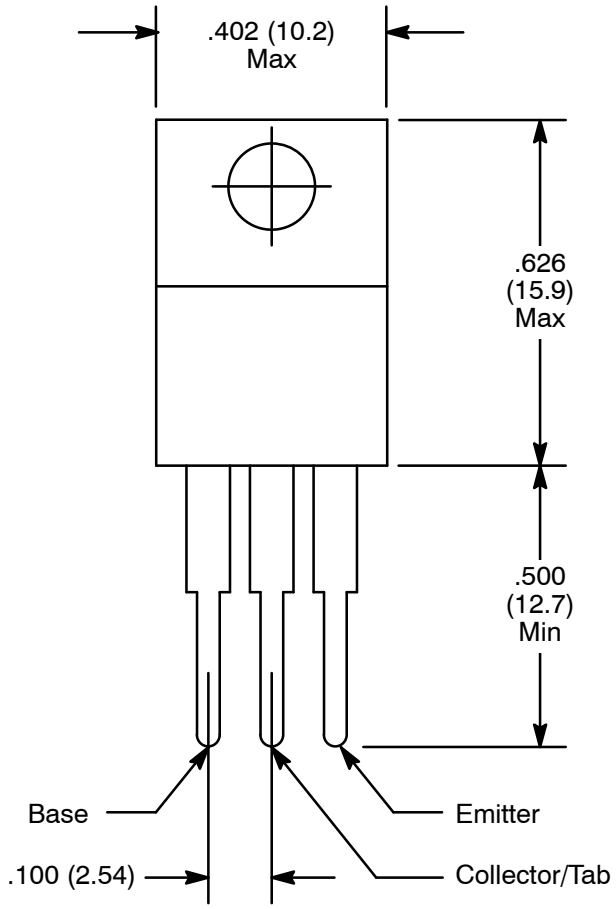
Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

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°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°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 ≤ 300μs, Duty Cycle ≤ 2%.


.402 (10.2)
Max
.626
(15.9)
Max
.500
(12.7)
Min
Base
Emitter
.100 (2.54)
Collector/Tab