

Silicon NPN Power Transistors

BU506D

DESCRIPTION

- With TO-220C package
- High voltage
- Fast switching speed
- Built-in damper diode

APPLICATIONS

- Horizontal deflection circuits of colour TV receivers.
- Line-operated switch-mode applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

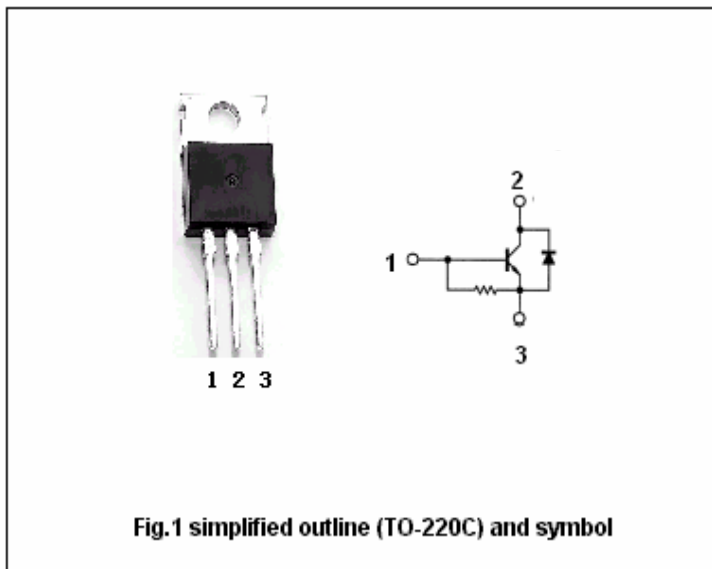


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	700	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		5	A
I <sub>CM</sub>	Collector current (Pulse)		8	A
I <sub>B</sub>	Base current		3	A
I <sub>BM</sub>	Base current(peak)		5	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	100	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65-150	°C

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## CHARACTERISTICS

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 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=100\text{mA}; I_B=0; L=25\text{mH}$	700			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=3\text{A}; I_B=1.33\text{A}$			1.0	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=3\text{A}; I_B=1.33\text{A}$			1.3	V
$h_{FE}$	DC current gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	6	13	30	
$I_{CES}$	Collector cut-off current	$V_{CE}=\text{rated}; V_{BE}=0$ $T_C=125^\circ\text{C}$			0.5 1.0	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=6\text{V}; I_C=0$			200	mA
$V_F$	Diode forward voltage	$I_F=3\text{A};$		1.5	2.2	V

## Switching times

$t_s$	Storage time	$I_{CM} = 3\text{A}; I_{B(\text{end})} = 1\text{A}$ $L_B = 12\mu\text{H}$		6.5		$\mu\text{s}$
$t_f$	Fall time			0.7		$\mu\text{s}$

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PACKAGE OUTLINE

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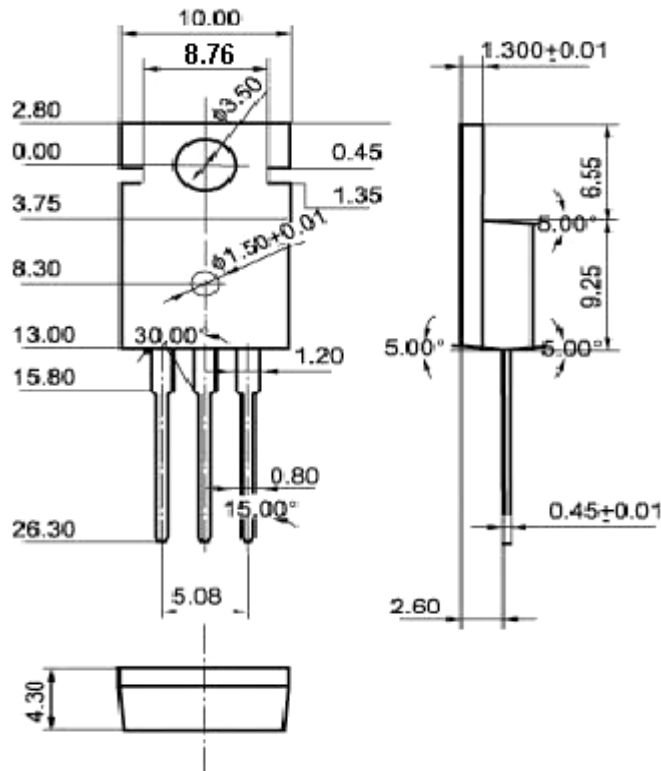


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)