

Silicon NPN Power Transistors

BU506DF

DESCRIPTION

www.datasheet4u.com

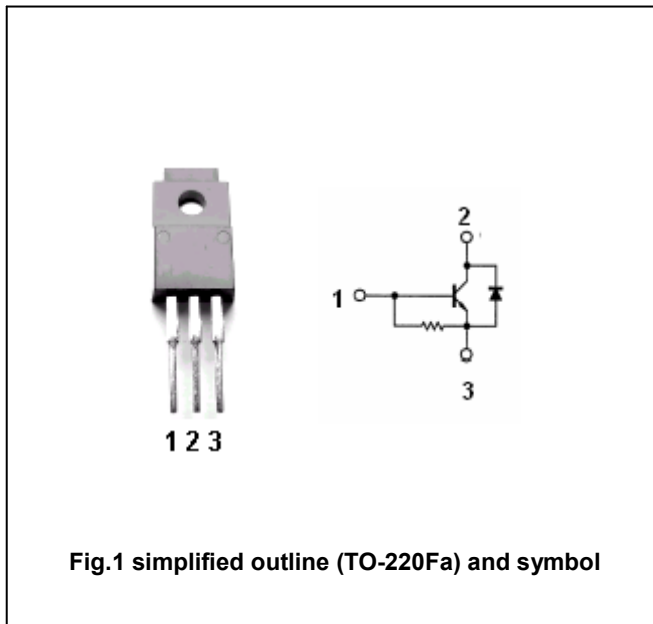
- With TO-220Fa package
- High voltage
- High-speed switching
- Built-in damper diode.

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	20	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65-150	°C

## Silicon NPN Power Transistors

## BU506DF

## CHARACTERISTICS

www.datasheet4u.com

 $T_j=25^\circ\text{C}$  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
$h_{FE-1}$	DC current gain	$I_C=0.1\text{A}$ ; $V_{CE}=5\text{V}$	6	13	30	
$h_{FE-2}$	DC current gain	$I_C=3\text{A}$ ; $V_{CE}=5\text{V}$	2.25			
$I_{CES}$	Collector cut-off current	$V_{CE}=\text{rated}$ ; $V_{BE}=0$ $T_j=125^\circ\text{C}$			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	$I_{CM} = 3\text{A}$ ; $I_{B(end)} = 1\text{A}$ $L_B = 12\mu\text{H}$		6.5		$\mu\text{s}$
$t_f$	Fall time			0.7		$\mu\text{s}$

Silicon NPN Power Transistors

BU506DF

PACKAGE OUTLINE

www.datasheet4u.com

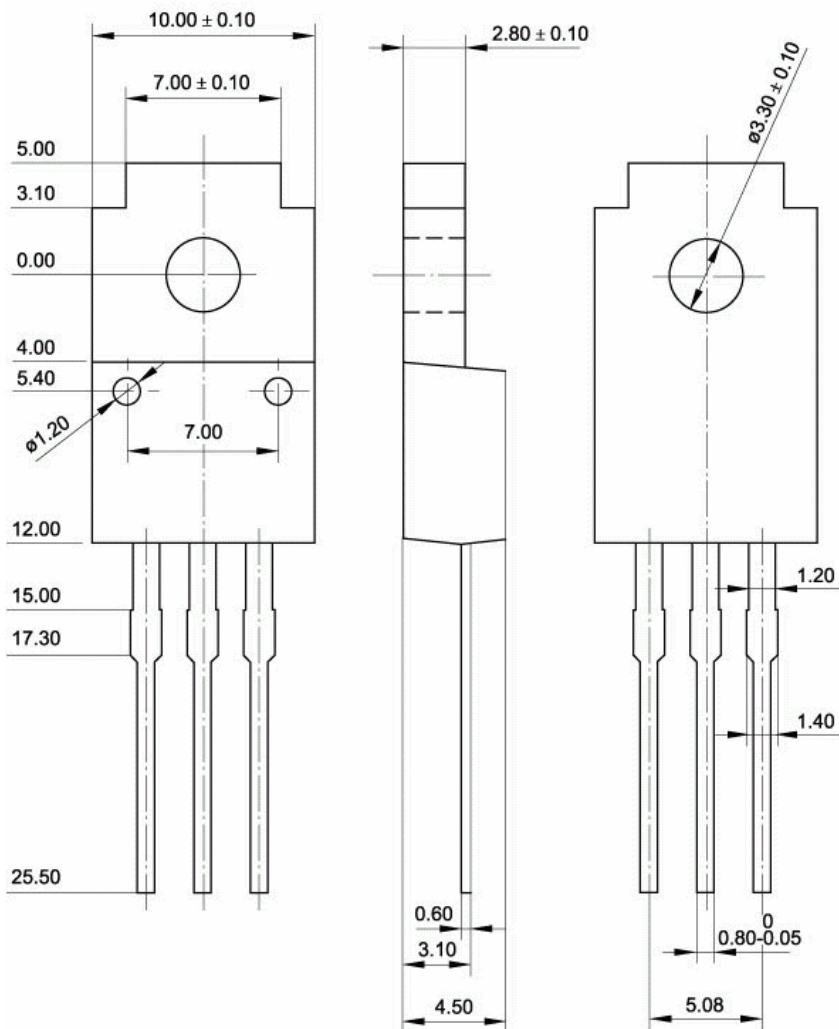


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)