

Silicon NPN Power Transistors

BU505DF

DESCRIPTION

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

APPLICATIONS

- For horizontal deflection circuits of color TV receivers.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

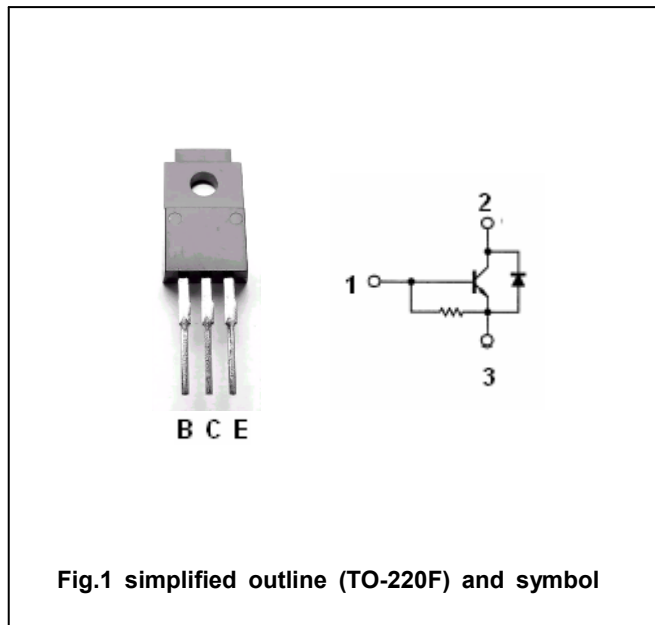


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	1500	V
V _{CEO}	Collector-emitter voltage	Open base	700	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		2.5	A
I _{CM}	Collector current (peak)		4	A
I _B	Base current		2	A
I _{BM}	Base current(peak)		4	A
P _{tot}	Total power dissipation	T _C =25°C	20	W
T _j	Max.operating junction temperature		150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-a}	Thermal resistance from junction to ambient	55	K/W

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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	$I_C=0.1\text{ A}; I_B=0; L=25\text{mH}$	700			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=600\text{mA}; I_C=0$	7.5	13.5		V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2\text{A}; I_B=0.9\text{ A}$			1.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=2\text{A}; I_B=0.9\text{ A}$			1.3	V
I_{CES}	Collector cut-off current	$V_{CE}=1500\text{V}; V_{BE}=0;$ $T_C=125^\circ\text{C}$			0.15 1.0	mA
h_{FE-1}	DC current gain	$I_C=0.1\text{ A}; V_{CE}=5\text{V}$	6		30	
h_{FE-2}	DC current gain	$I_C=2\text{A}; V_{CE}=5\text{V}$	2.22			
V_F	Diode forward voltage	$I_F=2\text{A}$			1.8	V
f_T	Transition frequency	$I_C=0.1\text{ A}; V_{CE}=5\text{V}$		7		MHz
C_C	Collector output capacitance	$I_E=0; f=1\text{MHz}; V_{CB}=10\text{V}$		65		pF

PACKAGE OUTLINE

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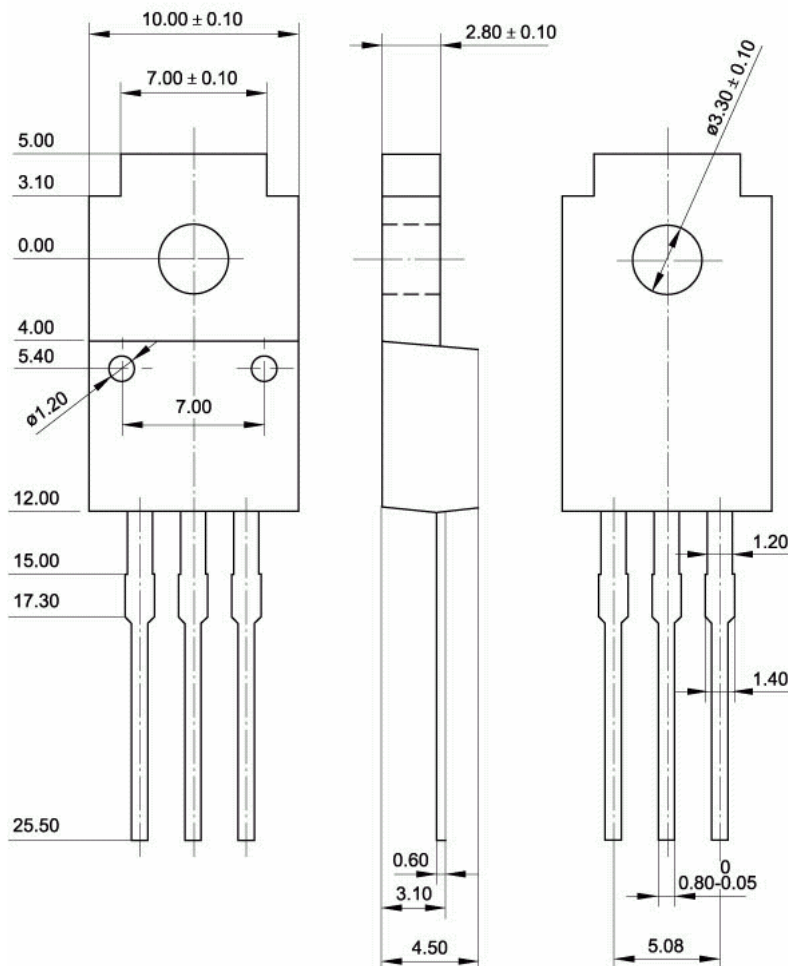


Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)