

## Silicon NPN Power Transistors

BU508D

## DESCRIPTION

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- With TO-3PN package
- High voltage
- Built-in damper diode

## APPLICATIONS

- For use in large screen colour deflection circuits.

## PINNING

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

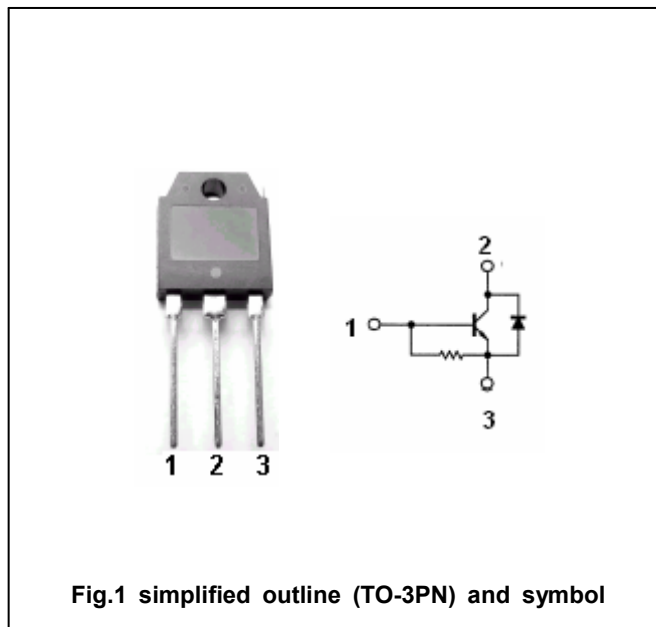


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

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 (DC)		5	A
$I_{CM}$	Collector current (Pulse)		8	A
$I_B$	Base current		2.5	A
$P_C$	Collector power dissipation	$T_C=25^\circ\text{C}$	125	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65-150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.0	$^\circ\text{C}/\text{W}$

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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	$I_C = 100\text{mA}$ ; $I_B = 0$	700			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C = 4.5\text{A}$ ; $I_B = 2.0\text{A}$			1.0	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C = 4.5\text{A}$ ; $I_B = 2.0\text{A}$			1.5	V
$h_{FE}$	DC current gain	$I_C = 1\text{A}$ ; $V_{CE} = 5\text{V}$	8			
$I_{CES}$	Collector cut-off current	$V_{CE} = 1500\text{V}$ ; $V_{BE} = 0$			1.0	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB} = 5\text{V}$ ; $I_C = 0$			300	mA
$V_F$	Diode forward voltage	$I_F = 4.0\text{A}$			2.0	V
$f_T$	Transition frequency	$I_C = 0.1\text{A}$ ; $V_{CE} = 5\text{V}$		4		MHz
$C_{ob}$	Collector capacitance	$I_E = 0$ ; $V_{CB} = 10\text{V}$ ; $f = 1\text{MHz}$		125		pF
$t_s$	Storage time	$I_C = 4.5\text{A}$ ; $I_B = 1.4\text{A}$ $L_B = 10\mu\text{H}$		7		$\mu\text{s}$
$t_f$	Fall time			1.0		$\mu\text{s}$

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