

## Silicon NPN Power Transistors

BUH713

## DESCRIPTION

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- With TO-3PML package
- High voltage,high speed

## APPLICATIONS

- Horizontal deflection for colour TV's and monitors.
- Switching mode power supplies

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

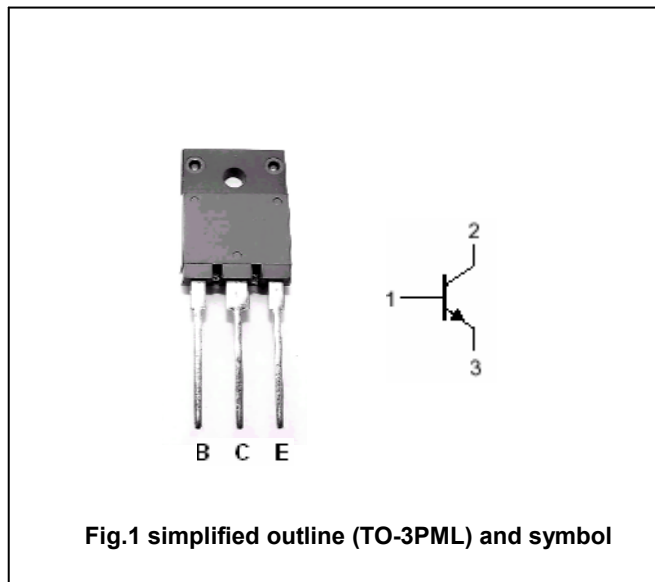


Fig.1 simplified outline (TO-3PML) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	1300	V
$V_{CEO}$	Collector-emitter voltage	Open base	700	V
$V_{EBO}$	Emitter-base voltage	Open collector	10	V
$I_C$	Collector current (DC)		10	A
$I_{CM}$	Collector current (Pulse)		20	A
$I_B$	Base current (DC)		5	A
$I_{BM}$	Base current (Pulse)		10	A
$P_{tot}$	Total power dissipation	$T_C=25^\circ\text{C}$	57	W
$T_j$	Operating junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	2.2	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(sus)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =100mA	700			V
V <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =10mA	10			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7A ; I <sub>B</sub> =1.5A			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7A ; I <sub>B</sub> =1.5A			1.3	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1300V; V <sub>BE</sub> =0 T <sub>j</sub> =125°C			1 2	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			100	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =7A ; V <sub>CE</sub> =5V	8			

## Switching times

t <sub>s</sub>	Storage time	I <sub>C</sub> =7A; I <sub>B1</sub> =1.5A; I <sub>B2</sub> =3.5A; V <sub>CC</sub> =400V		2.1	3.1	μs
t <sub>f</sub>	Fall time			140	210	ns

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PACKAGE OUTLINE

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Fig.2 Outline dimensions