

## Silicon NPN Power Transistors

2N6836

## DESCRIPTION

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

## APPLICATIONS

- Switching regulators
- Inverters
- Motor controls
- Deflection circuits

## PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

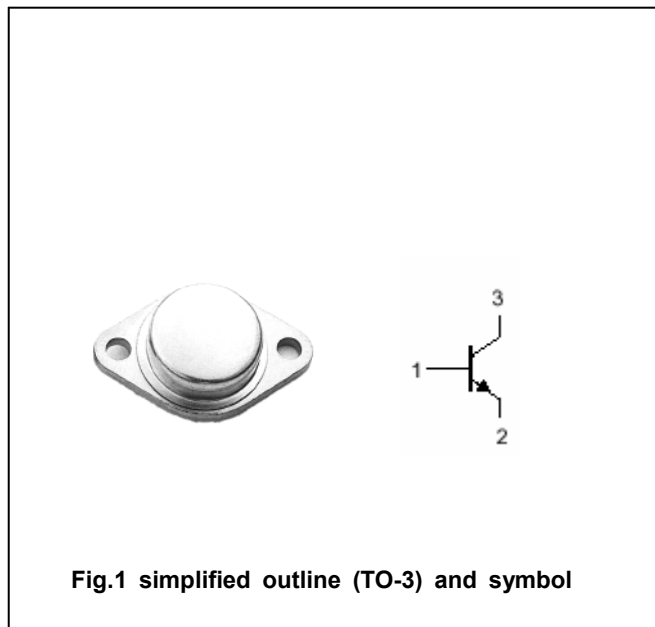


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a = \square$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	850	V
$V_{CEO}$	Collector-emitter voltage	Open base	450	V
$V_{EBO}$	Emitter-base voltage	Open collector	6	V
$I_C$	Collector current		15	A
$I_{CM}$	Collector current-peak		20	A
$I_B$	Base current		10	A
$I_{BM}$	Base current-peak		15	A
$P_C$	Collector power dissipation	$T_C = 25 \square$	175	W
$T_j$	Junction temperature		200	$\square$
$T_{stg}$	Storage temperature		-65~200	$\square$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.0	$\square/W$

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	450			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.7A			1.2	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A T <sub>C</sub> =100 °C			2.5 3.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =1.0A T <sub>C</sub> =100 °C			1.5 1.5	V
I <sub>CEV</sub>	Collector cut-off current	V <sub>CE</sub> =850V; V <sub>BE</sub> =-1.5V T <sub>C</sub> =100 °C			0.25 1.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =10A ; V <sub>CE</sub> =5V	8		30	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =15A ; V <sub>CE</sub> =5V	5			
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V;f=1MHz	50		400	pF
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.25A ; V <sub>CE</sub> =10V;f=10MHz	10		75	MHz

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PACKAGE OUTLINE



Fig.2 outline dimensions (unindicated tolerance:±0.1mm)