

## Silicon NPN Power Transistors

2SD1186

## DESCRIPTION

- With TO-3 package
- High breakdown voltage
- High speed switching

## APPLICATIONS

- Power switching applications

## PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

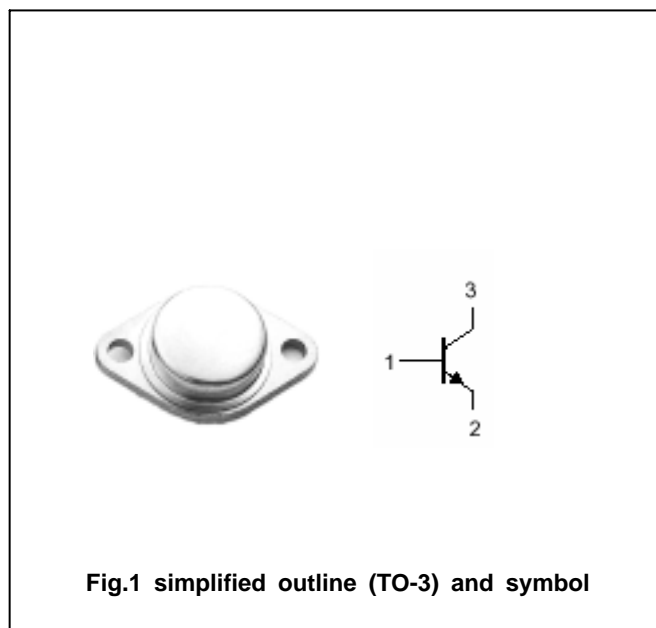


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a =$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	1500	V
$V_{CEO}$	Collector-emitter voltage	Open base	800	V
$V_{EBO}$	Emitter-base voltage	Open collector	6	V
$I_C$	Collector current		5	A
$I_{CM}$	Collector current-peak		7	A
$P_C$	Collector power dissipation	$T_C=25$	50	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-45~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =10mA ; I <sub>C</sub> =0	6			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA ; R <sub>BE</sub> =	800			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =0.8A			5.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =4A ; I <sub>B</sub> =0.8A			1.5	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1500V ; R <sub>BE</sub> =0			0.5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V ; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =0.3A ; V <sub>CE</sub> =5V	10		30	

## Switching times

t <sub>f</sub>	Fall time	I <sub>C</sub> =4A ; I <sub>B1</sub> =0.8A ; I <sub>B2</sub> =-2A			1.0	μs
t <sub>s</sub>	Storage time			1.0		μs

PACKAGE OUTLINE

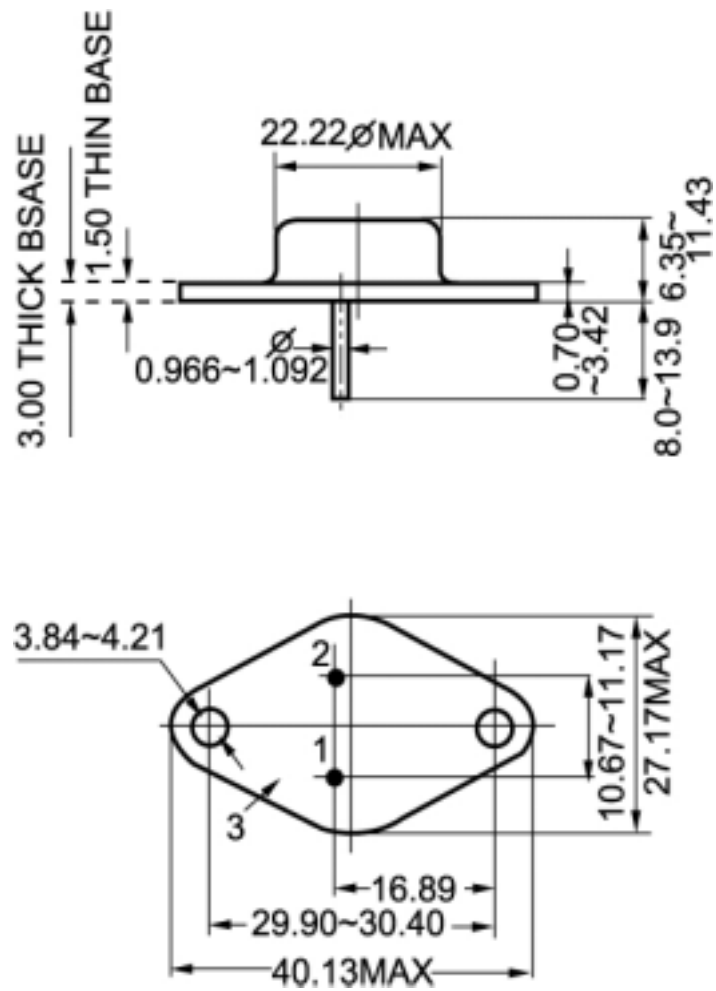


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1$ mm)