

Silicon NPN Power Transistors

2N3445

DESCRIPTION

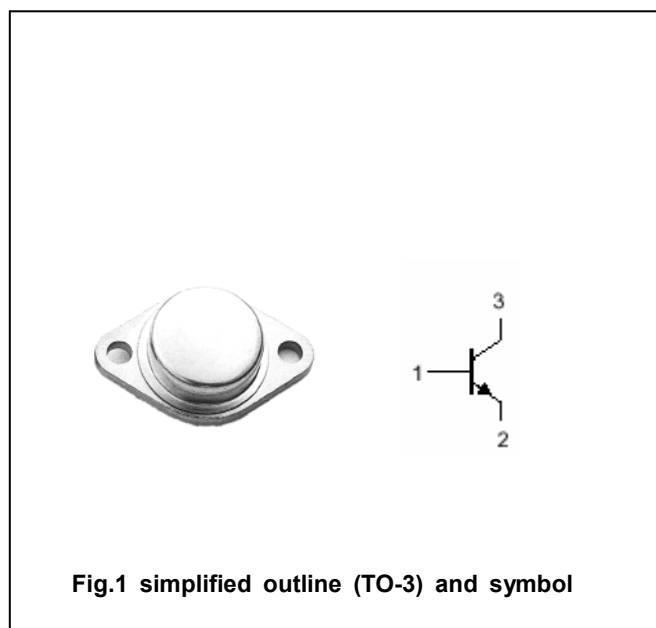
- With TO-3 package
- Excellent safe operating area

APPLICATIONS

- Designed for medium-switching and amplifier applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		7.5	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	115	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{(th)jc}$	Thermal resistance junction to case	1.17	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

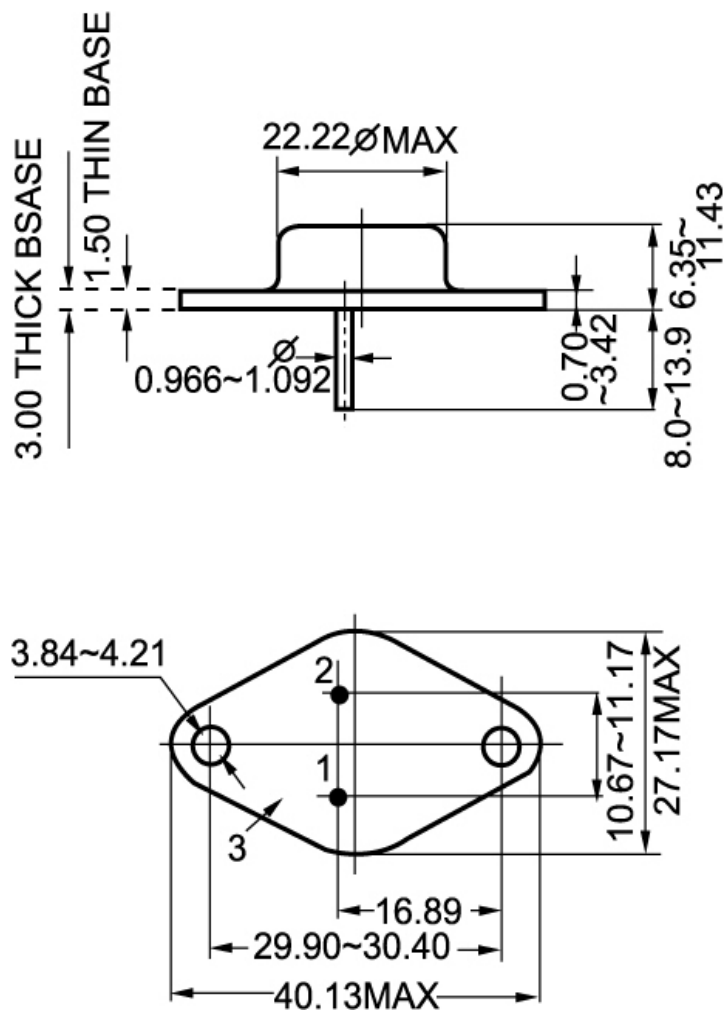
 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=30\text{mA}; I_B=0$	80			V
$V_{CE(sat)-1}$	Collector-emitter saturation voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			1.2	V
$V_{CE(sat)-2}$	Collector-emitter saturation voltage	$I_C=7\text{A}; I_B=1.5\text{A}$			3.0	V
$V_{BE(on)}$	Base-emitter on voltage	$I_C=3\text{A}; V_{CE}=5\text{V}$			1.5	V
I_{CEO}	Collector cut-off current	$V_{CE}=60\text{V}; I_B=0$			0.7	mA
I_{CBO}	Collector cut-off current	$V_{CB}=80\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7\text{V}; I_C=0$			0.1	mA
h_{FE-1}	DC current gain	$I_C=3\text{A}; V_{CE}=5\text{V}$	20		60	
h_{FE-2}	DC current gain	$I_C=7\text{A}; V_{CE}=5\text{V}$	4			

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PACKAGE OUTLINE

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