

Silicon NPN Power Transistors

BD142

DESCRIPTION

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- With TO-3 package
- Low collector saturation voltage
- High dissipation rating

APPLICATIONS

- LF large signal power amplification
- Intended for a wide variety of intermediate power applications.
- Suited for use in audio and inverter circuits at 12V

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

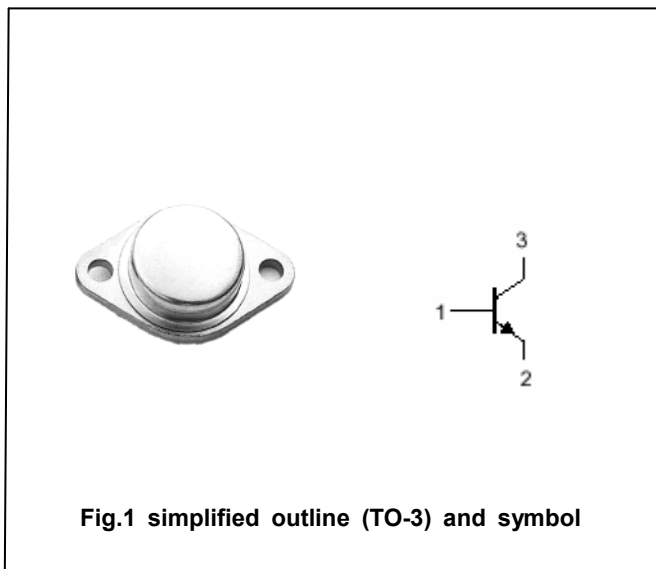


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	45	V
V _{CEO}	Collector-emitter voltage	Open base	45	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		15	A
I _B	Base current		7	A
P _T	Total power dissipation	T _C =25°C	117	W
T _j	Junction temperature		-65~200	°C
T _{stg}	Storage temperature		-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance from junction to case	1.5	°C/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
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=200\text{mA}; I_B=0$	45			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1\text{mA}; I_E=0$	45			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1\text{mA}; I_C=0$	7			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.1	V
V_{BE}	Base-emitter on voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			1.5	V
I_{CEX}	Collector cut-off current	$V_{CE}=100\text{V}; V_{BE}=-1.5\text{V}$			2	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7\text{V}; I_C=0$			1	mA
h_{FE-1}	DC current gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	12.5		160	
h_{FE-2}	DC current gain	$I_C=0.5\text{A}; V_{CE}=4\text{V}$	20			

PACKAGE OUTLINE

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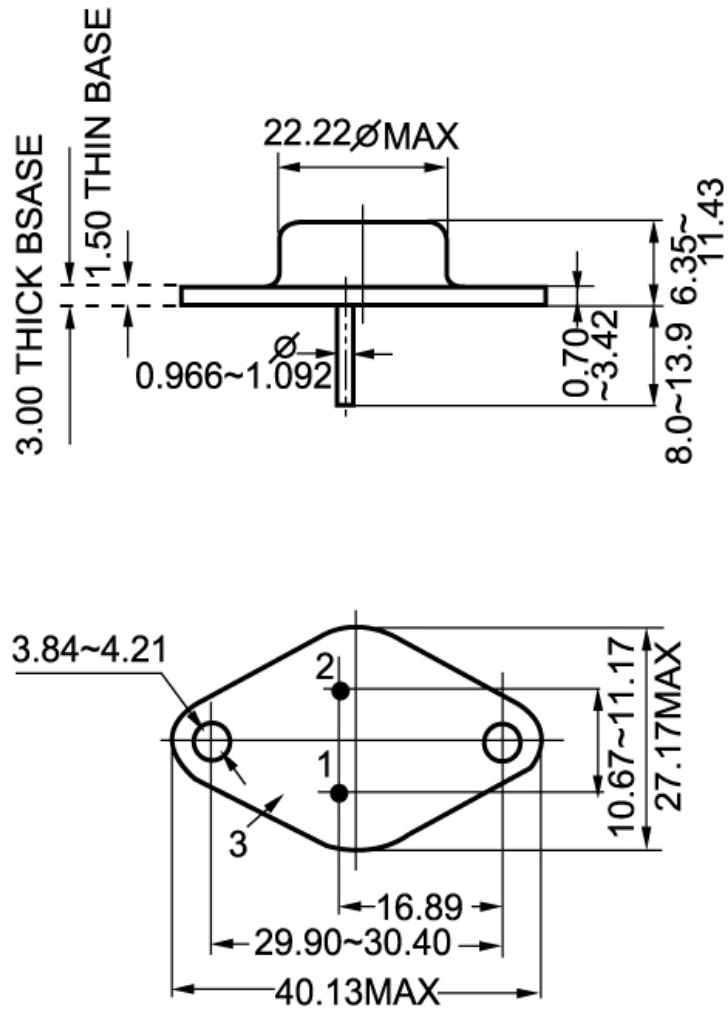


Fig.2 Outline dimensions