

Silicon NPN Power Transistors

BDY56

DESCRIPTION

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- With TO-3 package
- High current capability
- Fast switching speed

APPLICATIONS

- LF large signal power amplification.

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

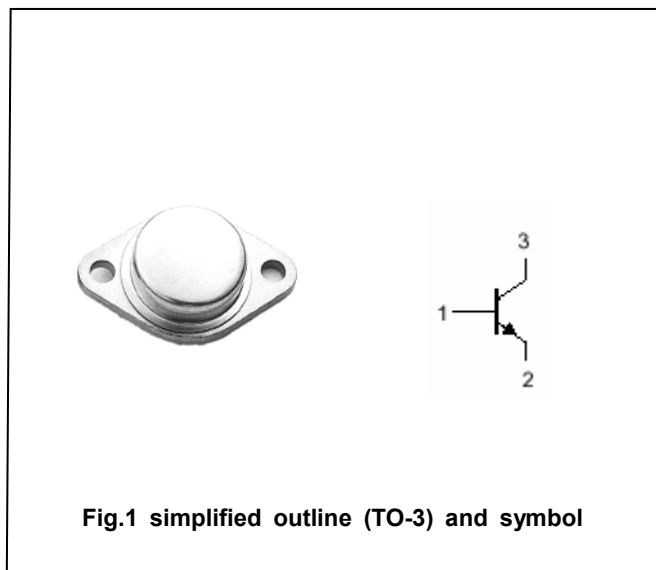


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	120	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	$T_C=25^\circ\text{C}$	117	W
T_j	Junction temperature		200	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.5	$^\circ\text{C}/\text{W}$

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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
$V_{CEQ(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.2\text{A}; I_B=0$	120			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.1	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=10\text{A}; I_B=3.3\text{A}$			2.5	V
V_{BE}	Base-emitter on voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			1.8	V
I_{CEX}	Collector cut-off current	$V_{CE}=150\text{V}; V_{BE}=-1.5\text{V}$ $T_C=150^\circ\text{C}$			3.0 30	mA
I_{CEO}	Collector cut-off current	$V_{CE}=60\text{V}; I_B=0$			0.5	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7\text{V}; I_C=0$			3.0	mA
h_{FE-1}	DC current gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	20		70	
h_{FE-2}	DC current gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	10			
f_T	Transition frequency	$I_C=10\text{A}; V_{CE}=4\text{V}$	10			MHz

PACKAGE OUTLINE

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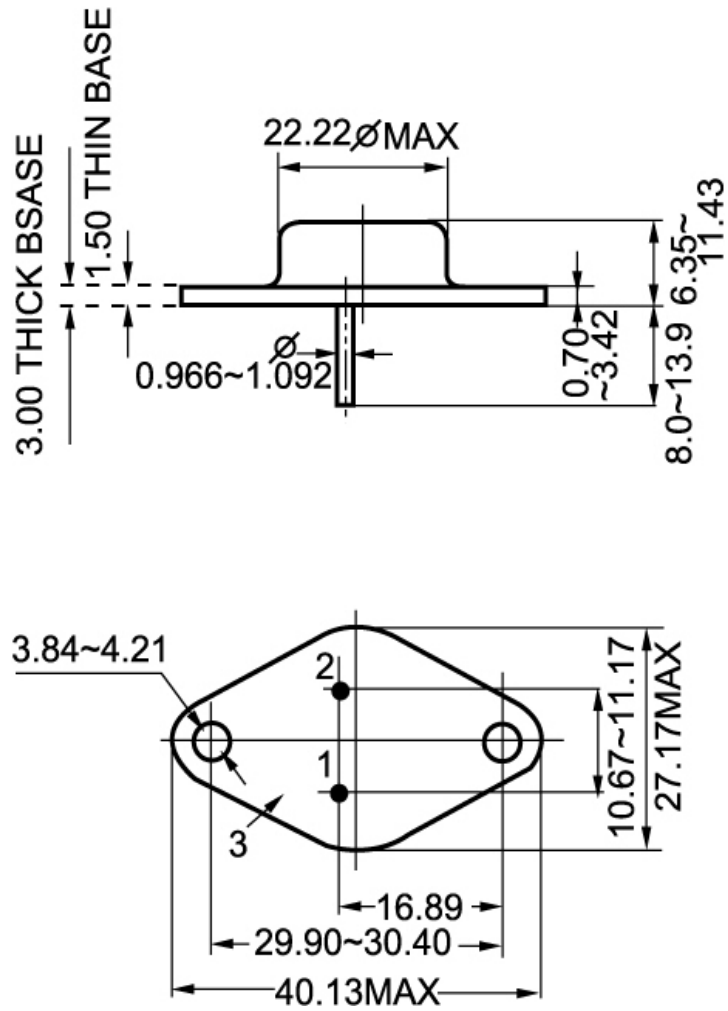


Fig.2 Outline dimensions