

Silicon NPN Power Transistors

BDX65B

DESCRIPTION

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- With TO-3 package
- DARLINGTON
- Complement to type BDX64B

APPLICATIONS

- Designed for power amplification and switching applications.

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

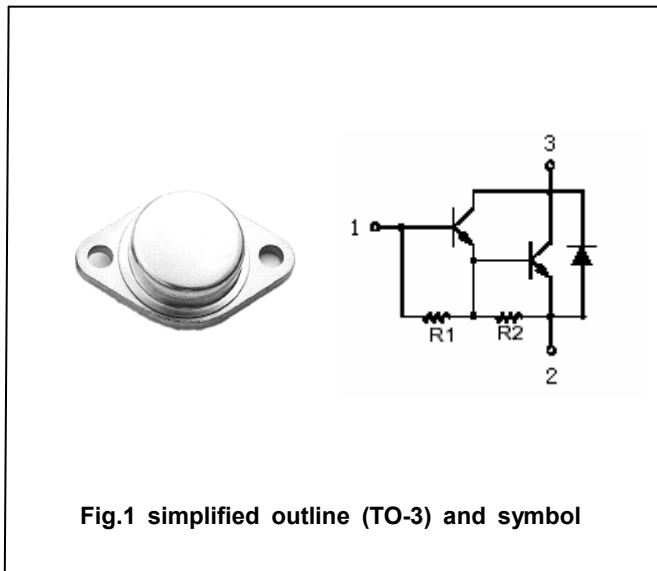


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	120	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		12	A
I <sub>CM</sub>	Collector current(peak)		16	A
I <sub>B</sub>	Base current		0.2	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	117	W
T <sub>j</sub>	Junction temperature		-55~200	°C
T <sub>stg</sub>	Storage temperature		-55~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	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
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.1\text{A}; I_B=0; L=25\text{mH}$	100			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=5\text{A}; I_B=20\text{mA}$			2	V
$V_{BE}$	Base-emitter on voltage	$I_C=5\text{A}; V_{CE}=3\text{V}$			3	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=100\text{V}; I_E=0$ $T_C=150^\circ\text{C}$			0.4 3	mA
$I_{CEO}$	Collector cut-off current	$V_{CE}=50\text{V}; I_B=0$			1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			5	mA
$V_F$	Diode forward voltage	$I_F=3\text{A}$		1.8		V
$h_{FE-1}$	DC current gain	$I_C=1\text{A}; V_{CE}=3\text{V}$		1500		
$h_{FE-2}$	DC current gain	$I_C=5\text{A}; V_{CE}=3\text{V}$	1000			
$h_{FE-3}$	DC current gain	$I_C=10\text{A}; V_{CE}=3\text{V}$		1500		
$f_T$	Transition frequency	$I_C=5\text{A}; V_{CE}=3\text{V}$		7		MHz

PACKAGE OUTLINE

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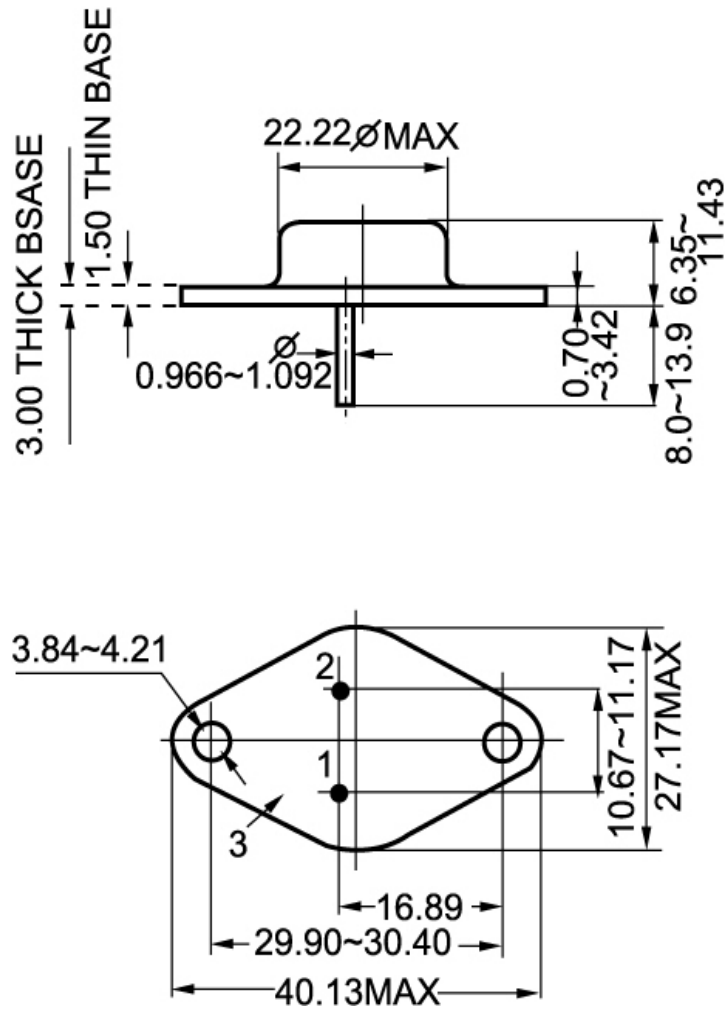


Fig.2 Outline dimensions