

Silicon NPN Power Transistors

BD249/A/B/C

DESCRIPTION

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- With TO-3PN package
- Complement to type BD250/A/B/C
- 125 W at 25°C case temperature
- 25 A continuous collector current

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

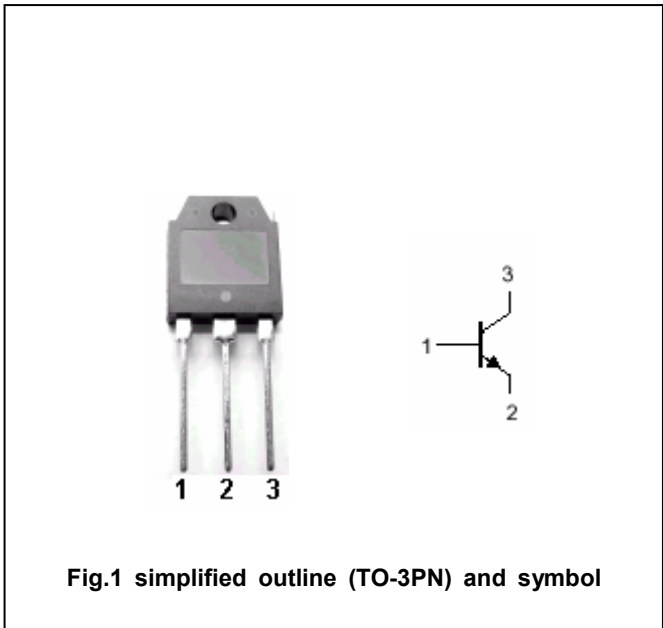


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CEO}	Collector-emitter voltage	BD249	45	V
		BD249A	60	
		BD249B	80	
		BD249C	100	
V _{CBO}	Collector-base voltage	BD249	55	V
		BD249A	70	
		BD249B	90	
		BD249C	115	
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		25	A
I _{CM}	Collector current-peak		40	A
I _B	Base current		5	A
P _C	Collector power dissipation	T _C =25□	125	W
T _j	Junction temperature		-65~150	□
T _{stg}	Storage temperature		-65~150	□

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance junction to case	1.0	□/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	BD249	$I_C=30\text{mA}; I_B=0$	45			V
		BD249A		60			
		BD249B		80			
		BD249C		100			
$V_{CEsat-1}$	Collector-emitter saturation voltage		$I_C=15\text{A}; I_B=1.5\text{A}$			1.8	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		$I_C=25\text{A}; I_B=5\text{A}$			4	V
V_{BE-1}	Base-emitter on voltage		$I_C=15\text{A}; V_{CE}=4\text{V}$			2	V
V_{BE-2}	Base-emitter on voltage		$I_C=25\text{A}; V_{CE}=4\text{V}$			4	V
I_{CEO}	Collector cut-off current	BD249/249A	$V_{CE}=30\text{V}; I_B=0$			1	mA
		BD249B/249C	$V_{CE}=60\text{V}; I_B=0$				
I_{EBO}	Emitter cut-off current		$V_{EB}=5\text{V}; I_C=0$			1	mA
h_{FE-1}	DC current gain		$I_C=1.5\text{A}; V_{CE}=4\text{V}$	25			
h_{FE-2}	DC current gain		$I_C=15\text{A}; V_{CE}=4\text{V}$	10			
h_{FE-3}	DC current gain		$I_C=25\text{A}; V_{CE}=4\text{V}$	5			

Switching times

t_{on}	Turn-on time	$I_C=1\text{A}; I_{B1}=-I_{B2}=0.5\text{A}; R_L=5\Omega$		0.3		μs
t_{off}	Turn-off time			0.9		μs

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PACKAGE OUTLINE

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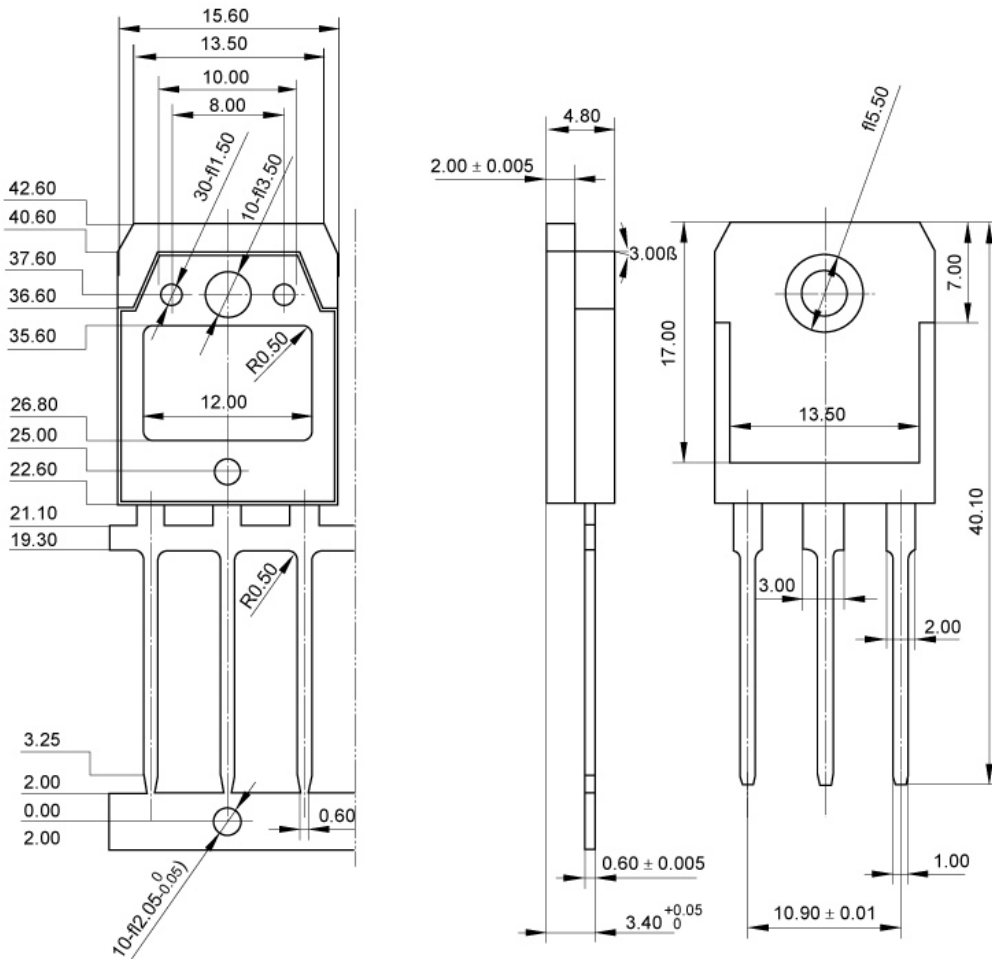


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)