

## 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

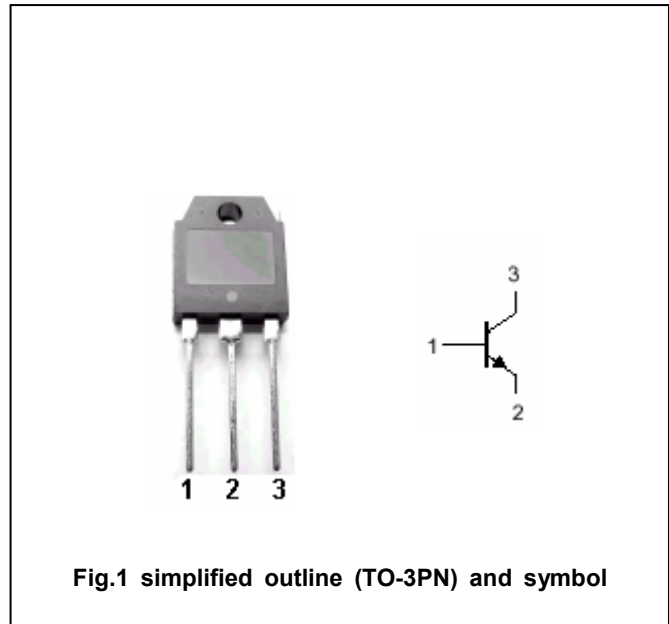


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings( $T_a = \square$ )

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	$T_C = 25 \square$	125	W
$T_j$	Junction temperature		-65~150	$\square$
$T_{stg}$	Storage temperature		-65~150	$\square$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.0	$\square/W$

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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		$\mu\text{s}$
$t_{off}$	Turn-off time			0.9		$\mu\text{s}$

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PACKAGE OUTLINE

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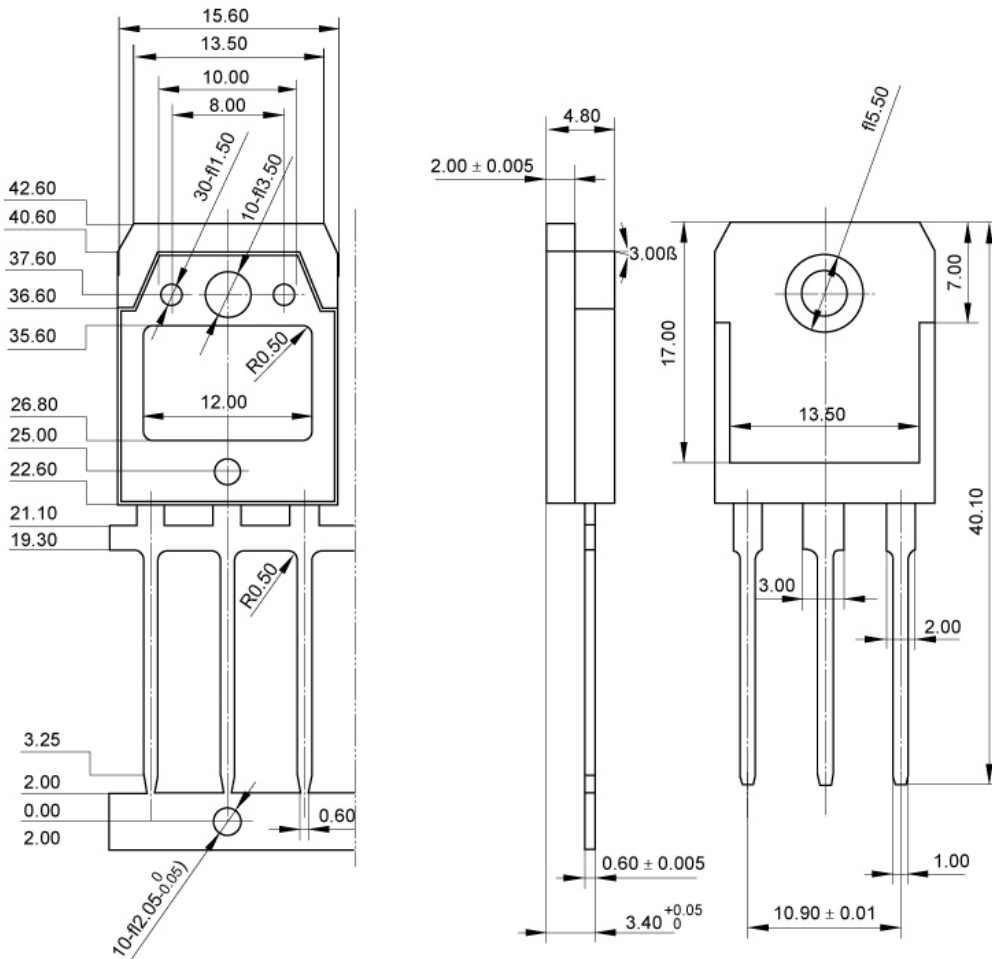


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)