

Inchange Semiconductor

Product Specification

Silicon NPN Power Transistors

BD249/A/B/C

DESCRIPTION

- 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

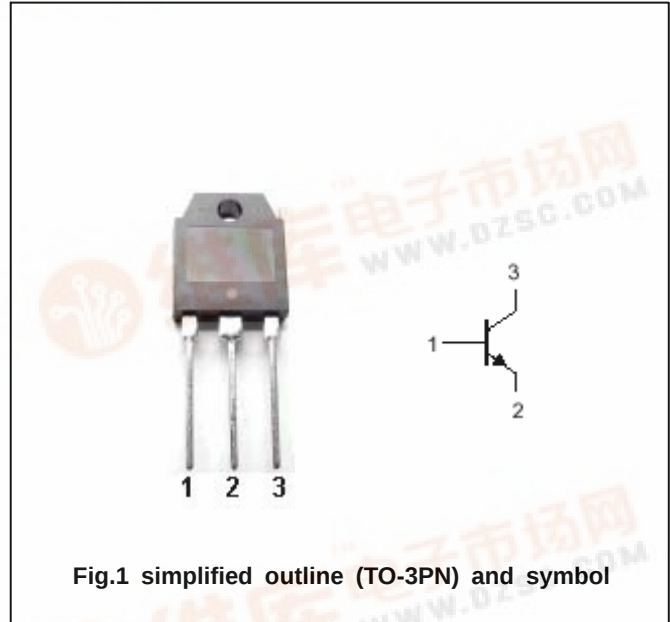


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CEO}	Collector-emitter voltage	Open base	45	V
			60	
			80	
			100	
V_{CBO}	Collector-base voltage	Open base	55	V
			70	
			90	
			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

Tj=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	BD249	$I_C=30mA; I_B=0$	45			V
		BD249A		60			
		BD249B		80			
		BD249C		100			
$V_{CEsat-1}$	Collector-emitter saturation voltage		$I_C=15A; I_B=1.5A$			1.8	V
$V_{CEsat-2}$	Collector-emitter saturation voltage		$I_C=25A; I_B=5A$			4	V
V_{BE-1}	Base-emitter on voltage		$I_C=15A; V_{CE}=4V$			2	V
V_{BE-2}	Base-emitter on voltage		$I_C=25A; V_{CE}=4V$			4	V
I_{CEO}	Collector cut-off current	BD249/249A	$V_{CE}=30V; I_B=0$			1	mA
		BD249B/249C	$V_{CE}=60V; I_B=0$				
I_{EBO}	Emitter cut-off current		$V_{EB}=5V; I_C=0$			1	mA
h_{FE-1}	DC current gain		$I_C=1.5A; V_{CE}=4V$	25			
h_{FE-2}	DC current gain		$I_C=15A; V_{CE}=4V$	10			
h_{FE-3}	DC current gain		$I_C=25A; V_{CE}=4V$	5			

Switching times

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

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PACKAGE OUTLINE

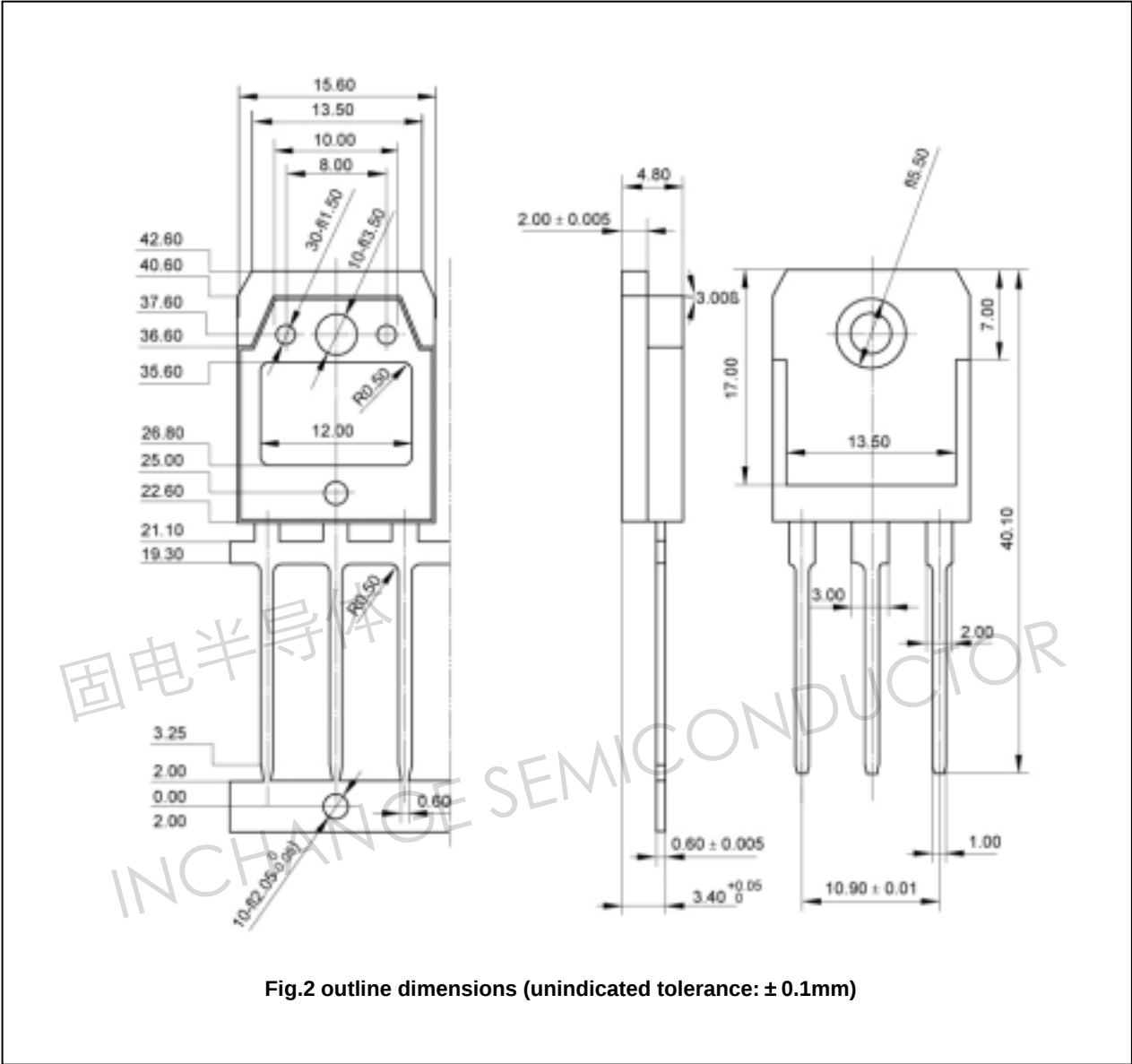


Fig.2 outline dimensions (unindicated tolerance: $\pm 0.1\text{mm}$)