

Silicon PNP Power Transistors

BD746/A/B/C

DESCRIPTION

- With TO-3PN package
- Complement to type BD745/A/B/C
- High current capability
- High power dissipation

APPLICATIONS

- For use in power linear and switching applications

PINNING

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

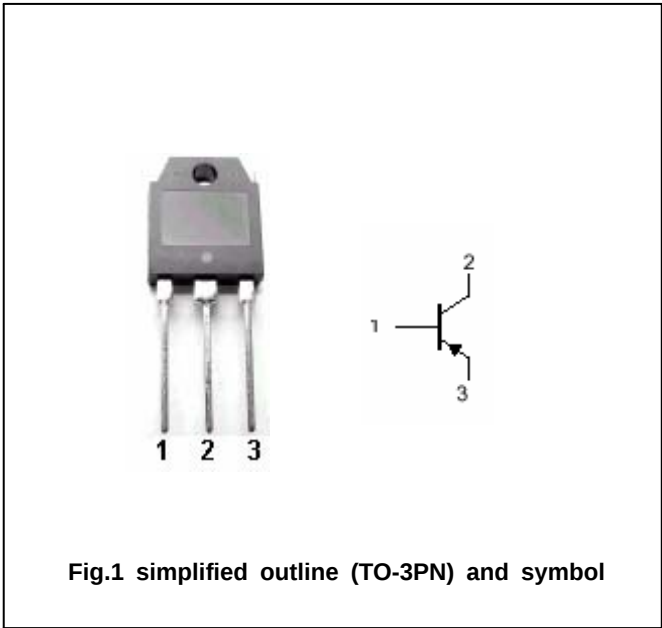


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	BD746	Open emitter	-50	V
		BD746A		-70	
		BD746B		-90	
		BD746C		-110	
V _{CEO}	Collector-emitter voltage	BD746	Open base	-45	V
		BD746A		-60	
		BD746B		-80	
		BD746C		-100	
V _{EBO}	Emitter-base voltage		Open collector	-5	V
I _C	Collector current			-20	A
I _{CM}	Collector current-peak			-25	A
I _B	Base current			-7	A
P _C	Collector power dissipation		T _C =25	115	W
			T _a =25	3.5	
T _j	Junction temperature			150	
T _{stg}	Storage temperature			-65~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	BD746	I _C =-30mA; I _B =0	-45			V
		BD746A		-60			
		BD746B		-80			
		BD746C		-100			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =-5 A; I _B =-0.5 A			-1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =-20 A; I _B =-5 A			-3.0	V
V _{BE-1}	Base-emitter on voltage		I _C =-5A ; V _{CE} =-4V			-1.0	V
V _{BE-2}	Base-emitter on voltage		I _C =-20A ; V _{CE} =-4V			-3.0	V
I _{CEO}	Collector cut-off current	BD746/A	V _{CE} =-30V; I _B =0			-0.1	mA
		BD746B/C	V _{CE} =-60V; I _B =0				
I _{CBO}	Collector cut-off current	BD746	V _{CE} =-50V; V _{BE} =0 T _C =125			-0.1 -5.0	mA
		BD746A	V _{CE} =-70V; V _{BE} =0 T _C =125			-0.1 -5.0	
		BD746B	V _{CE} =-90V; V _{BE} =0 T _C =125			-0.1 -5.0	
		BD746C	V _{CE} =-110V; V _{BE} =0 T _C =125			-0.1 -5.0	
I _{EBO}	Emitter cut-off current		V _{EB} =-5V; I _C =0			-0.5	mA
h _{FE-1}	DC current gain		I _C =-1A ; V _{CE} =-4V	40			
h _{FE-2}	DC current gain		I _C =-5A ; V _{CE} =-4V	20		150	
h _{FE-3}	DC current gain		I _C =-20A ; V _{CE} =-4V	5			

Switching times resistive load

t _d	Delay time	I _C =-5 A; I _{B1} =-I _{B2} =-0.5 A V _{BE(off)} =4.2V; R _L =6Ω t _p =20 μs		0.02		μs
t _r	Rise time			0.12		μs
t _s	Storage time			0.6		μs
t _f	Fall time			0.3		μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	1.1	/W

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PACKAGE OUTLINE

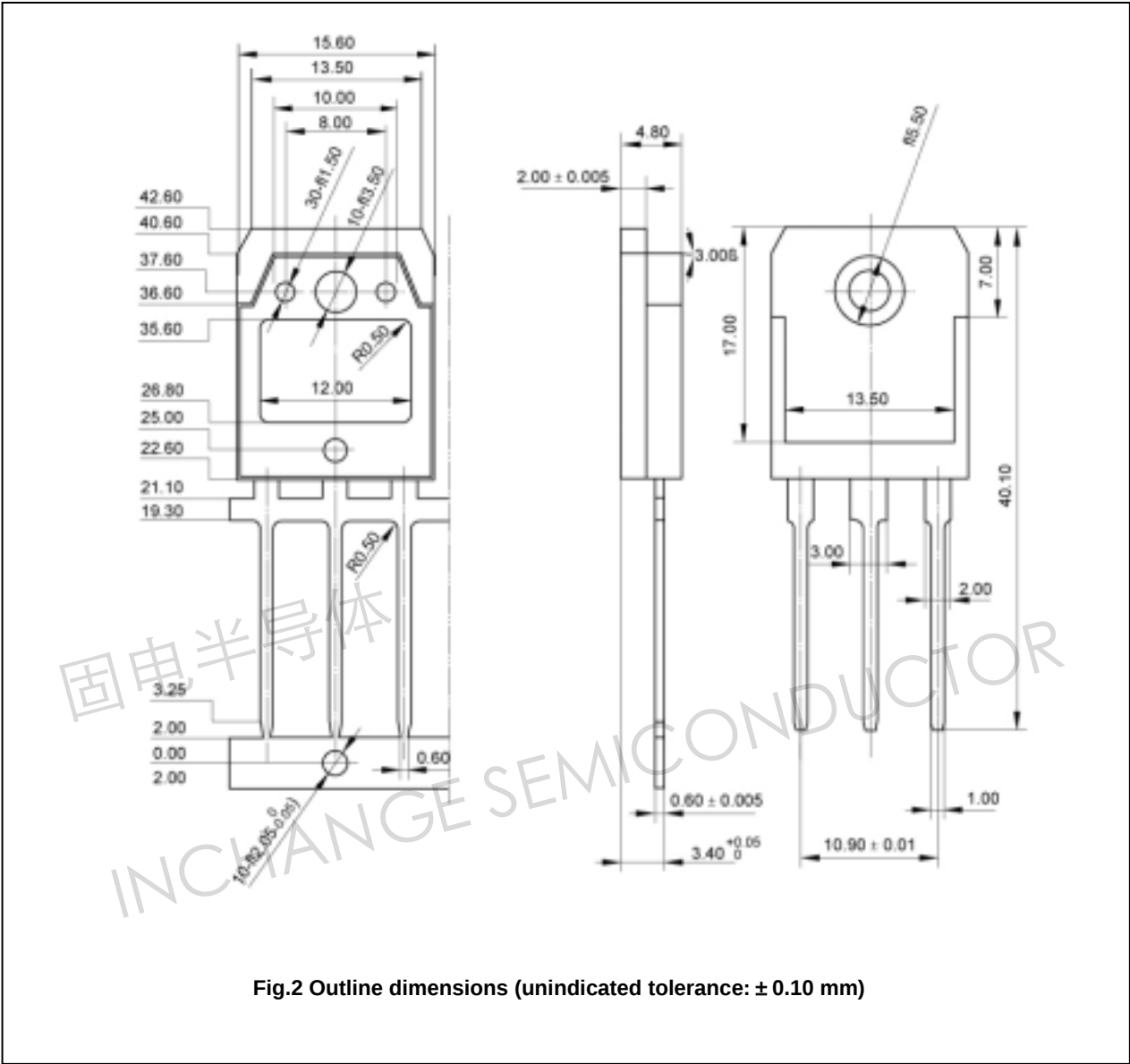


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)