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

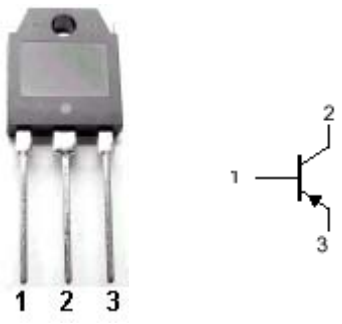

Fig.1 simplified outline (TO-3PN) and symbol

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

Tj=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=20μs		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
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.1	℃/W

PACKAGE OUTLINE

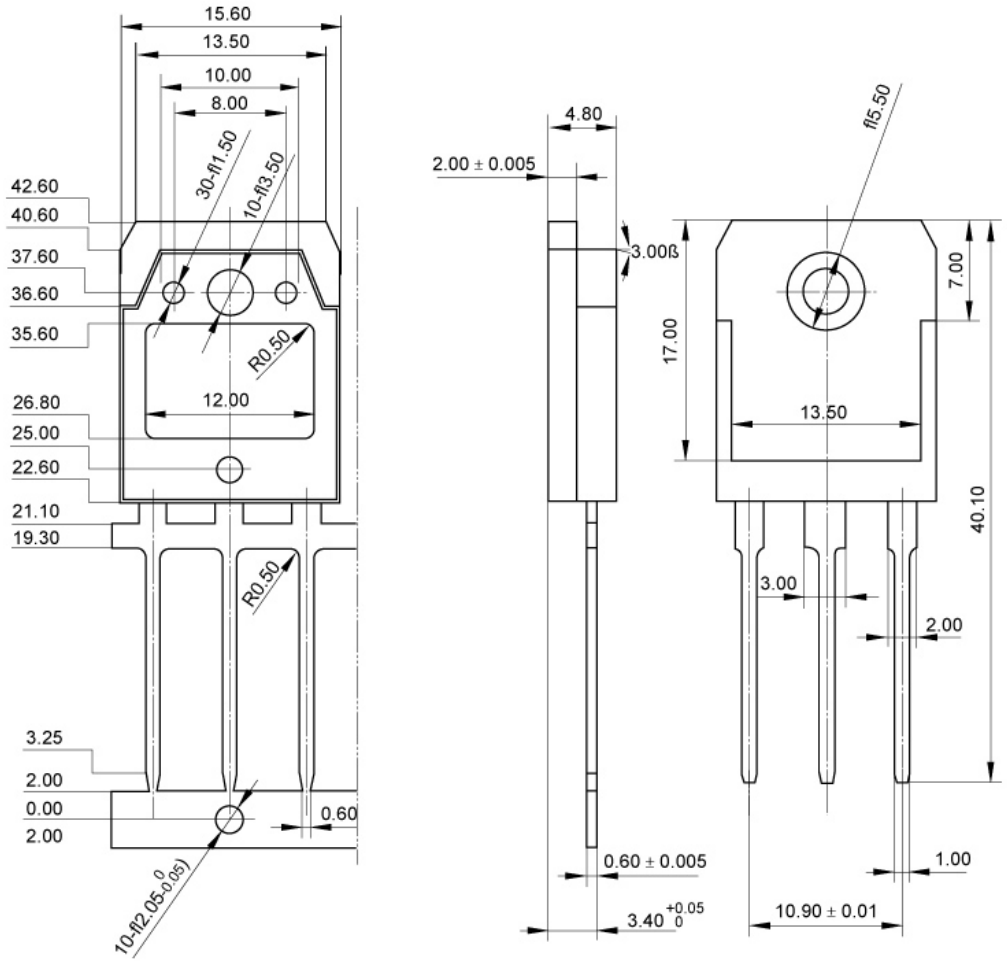

Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)