

Silicon NPN Power Transistors

BD311

DESCRIPTION

- With TO-3 package
- High DC current gain
- Excellent safe operating area
- Complement to type BD312

APPLICATIONS

- Designed for power amplifier applications

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

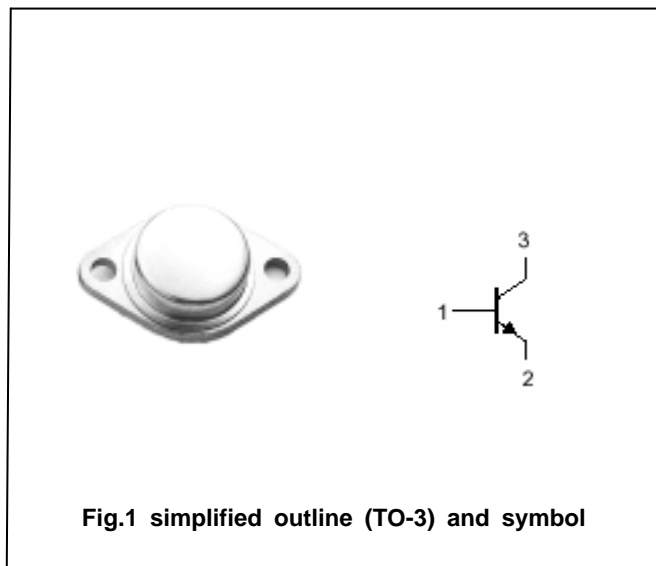


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	60	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		10	A
I_{CM}	Collector current(peak)		20	A
I_B	Base current		4	A
P_T	Total power dissipation	$T_C=25$	115	W
T_j	Junction temperature		-65~200	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	1.52	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	60			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A ; I _B =0.5A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A ; I _B =0.5A			1.8	V
V _{BE}	Base-emitter on voltage	I _C =5A ; V _{CE} =4V			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =rated; I _E =0			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	I _C =5A ; V _{CE} =4V	25			
h _{FE-2}	DC current gain	I _C =10A ; V _{CE} =4V	5			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V, f=1MHz	4			MHz

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PACKAGE OUTLINE

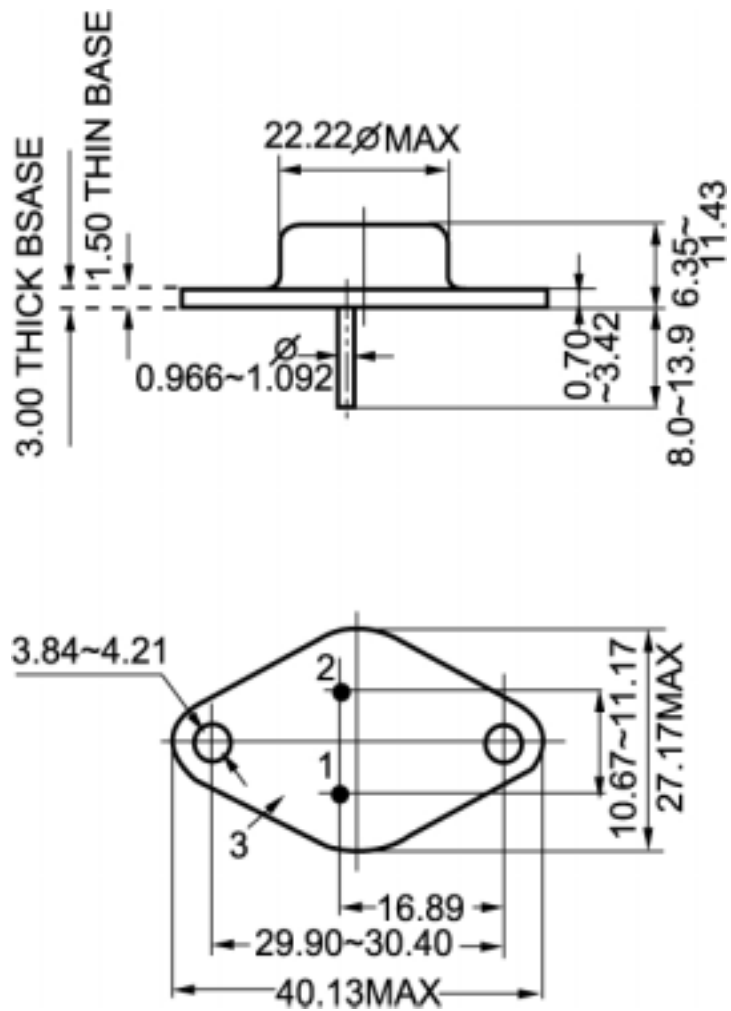


Fig.2 Outline dimensions