

Silicon NPN Power Transistors

2N5877 2N5878

DESCRIPTION

- With TO-3 package
- Low collector saturation voltage
- Complement to type 2N5875 2N5876

APPLICATIONS

- For general-purpose power amplifier and switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

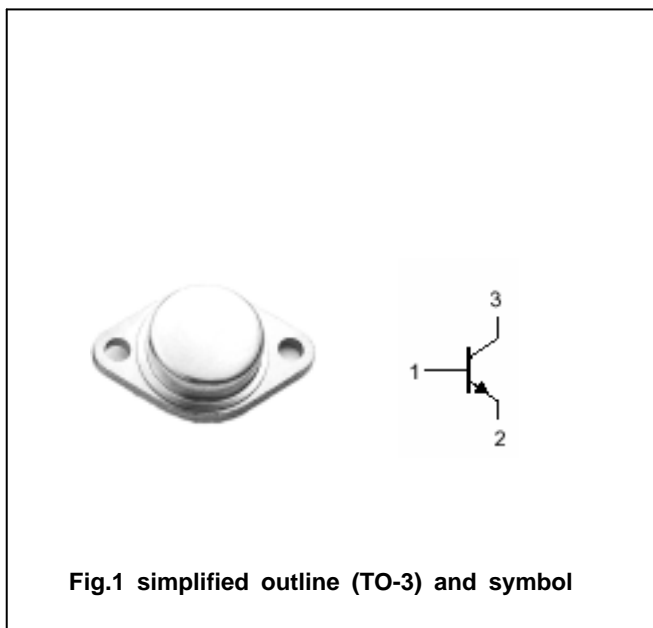


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CB0}	Collector-base voltage	2N5877	60	V
		2N5878	80	
V _{CEO}	Collector-emitter voltage	2N5877	60	V
		2N5878	80	
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 _D	Total Power Dissipation	T _C =25	150	W
T _j	Junction temperature		200	
T _{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance junction to case	1.17	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	2N5877	I _C =0.2A ; I _B =0	60			V
		2N5878		80			
V _{CEsat-1}	Collector-emitter saturation voltage		I _C =5A; I _B =0.5A			1.0	V
V _{CEsat-2}	Collector-emitter saturation voltage		I _C =10A; I _B =2.5A			3.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =10A; I _B =2.5A			2.5	V
V _{BE}	Base-emitter on voltage		I _C =4A ; V _{CE} =4V			1.5	V
I _{CBO}	Collector cut-off current		V _{CB} =ratedV _{CBO} ; I _B =0			0.5	mA
I _{CEO}	Collector cut-off current	2N5877	V _{CE} =30V; I _B =0			1.0	mA
		2N5878	V _{CE} =40V; I _B =0				
I _{CEX}	Collector cut-off current		V _{CE} =ratedV _{CE} ; V _{BE} =1.5V T _C =150			0.5 5.0	mA
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain		I _C =1A ; V _{CE} =4V	35			
h _{FE-2}	DC current gain		I _C =4A ; V _{CE} =4V	20		100	
h _{FE-3}	DC current gain		I _C =10A ; V _{CE} =4V	4			
f _T	Transistion frequency		I _C =0.5A ; V _{CE} =10V; f=1MHz	4			MHz

PACKAGE OUTLINE

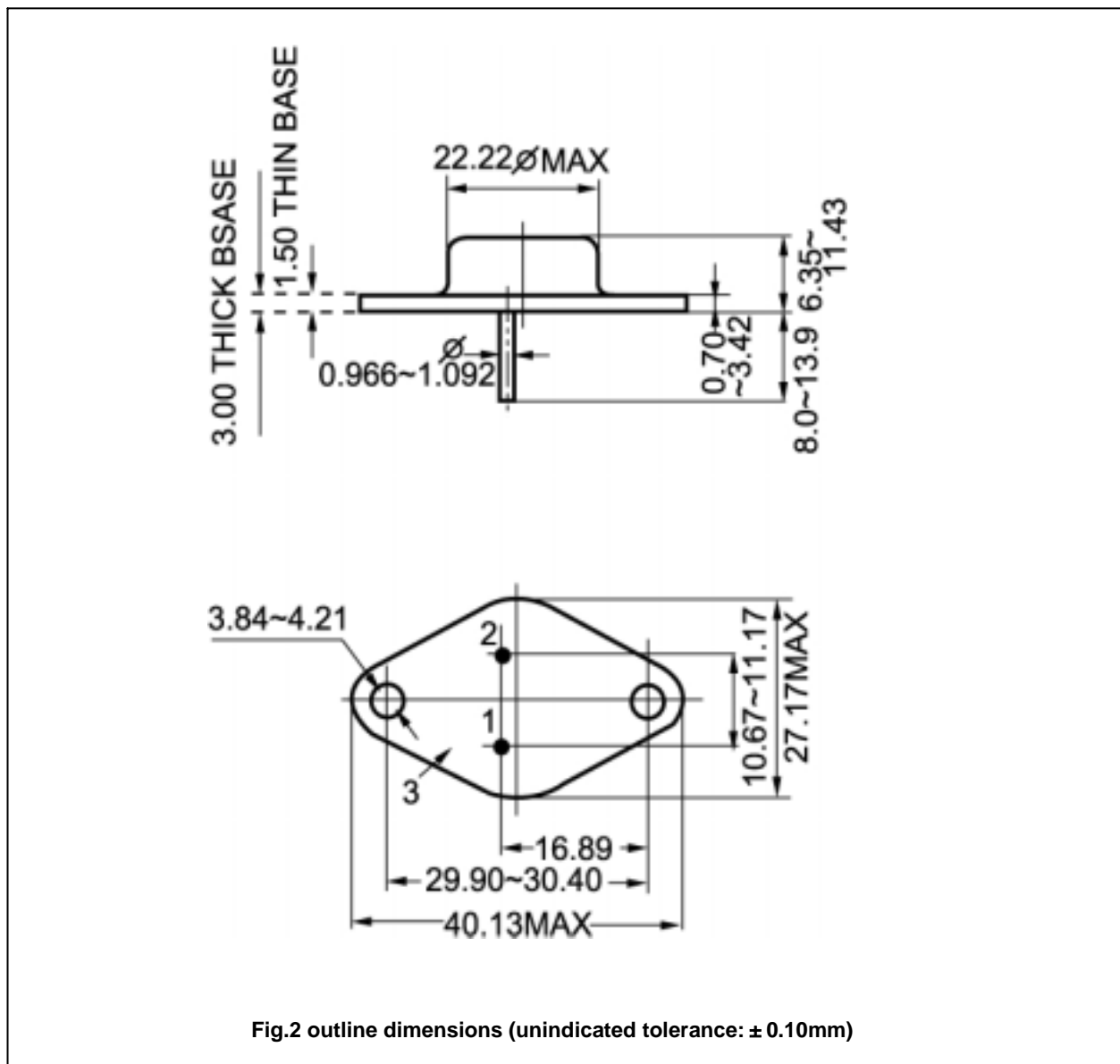


Fig.2 outline dimensions (unindicated tolerance: ± 0.10mm)