

Silicon NPN Power Transistors

2N6569

DESCRIPTION

- With TO-3 package
- Complement to type 2N6594
- Wide area of safe operation

APPLICATIONS

- Designed for low voltage amplifier power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

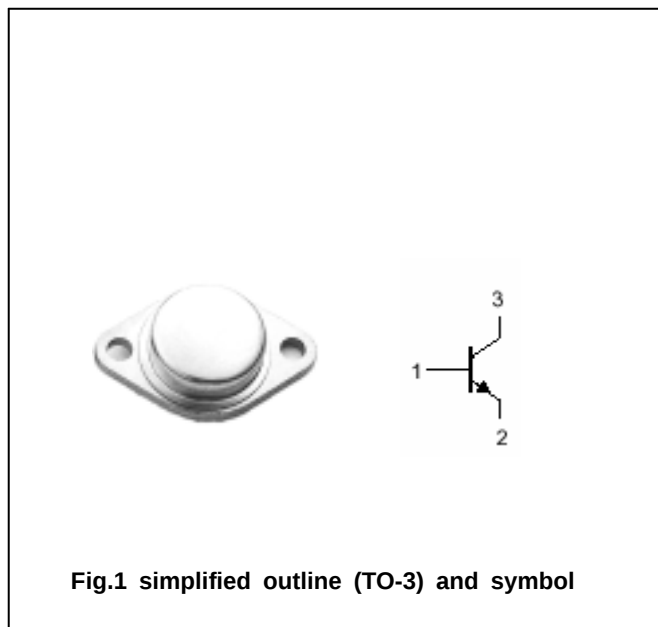


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	45	V
V_{CEO}	Collector-emitter voltage	Open base	40	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		12	A
I_{CM}	Collector current-peak		24	A
I_B	Base current		5	A
I_E	Emitter current		17	A
I_{EM}	Emitter current-peak		34	A
P_C	Collector power dissipation	$T_C = 25$	100	W
T_j	Junction temperature		200	
T_{stg}	Storage temperature		-65~200	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A ; I _B =0	40			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =4A; I _B =0.4A			1.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =12A; I _B =2.4A			4.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =4A; I _B =0.4A			2.0	V
I _{CEO}	Collector cut-off current	V _{CE} =40V; I _B =0			1.0	mA
I _{CBO}	Collector cut-off current	V _{CB} =45V; I _E =0			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			5.0	mA
h _{FE-1}	DC current gain	I _C =4A ; V _{CE} =3V	15		200	
h _{FE-2}	DC current gain	I _C =12A ; V _{CE} =4V	5		100	
f _T	Transition frequency	I _C =1.0A ; V _{CE} =4V; f=0.5MHz	1.5		20	MHz

Switching times

t _d	Delay time	I _C =2A; I _{B1} =-I _{B2} =0.2A V _{CC} =30V; t _p =25 μs; Duty Cycle ≤ 2.0%			0.4	μs
t _r	Rise time				1.5	μs
t _{stg}	Storage time				5.0	μs
t _f	Fall time				1.5	μs

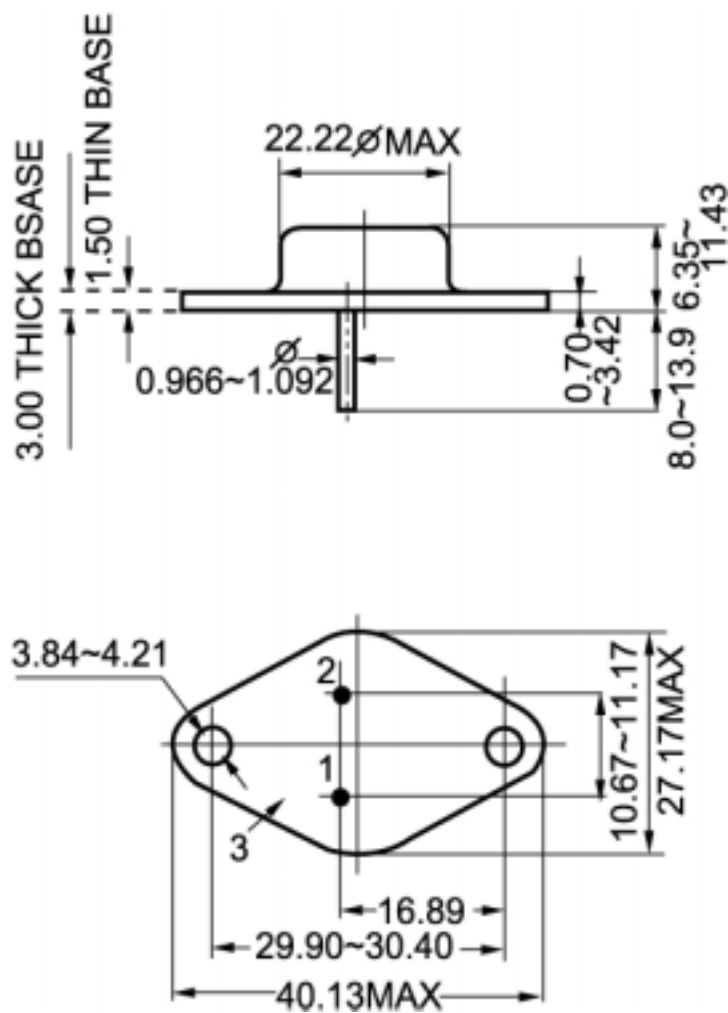
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance junction to case	1.75	/W

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PACKAGE OUTLINE

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