

Silicon NPN Power Transistors

2N5970

DESCRIPTION

- With TO-3 package
- Low collector saturation voltage
- High power dissipations

APPLICATIONS

- Designed for general-purpose power amplifier and switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

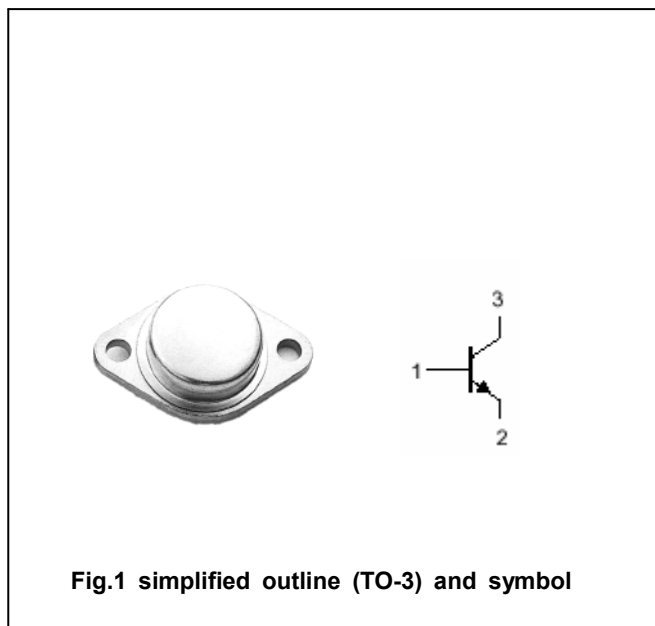


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a = \square$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	60	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		15	A
I_{CM}	Collector current-peak		30	A
I_B	Base current		5	A
P_D	Total Power Dissipation	$T_C = 25 \square$	150	W
T_j	Junction temperature		150	\square
T_{stg}	Storage temperature		-65~200	\square

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.1	\square/W

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CHARACTERISTICS

 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.1\text{A}; I_B=0$	60			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=7\text{A}; I_B=0.7\text{A}$			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=15\text{A}; I_B=3.75\text{A}$			4.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=15\text{A}; I_B=3.75\text{A}$			2.5	V
I_{CEO}	Collector cut-off current	$V_{CE}=30\text{V}; I_B=0$			1.0	mA
I_{CEV}	Collector cut-off current	$V_{CE}=80\text{V}; V_{BE(off)}=1.5\text{V}$ $T_C=150^\circ\text{C}$			0.5 5.0	mA
I_{CBO}	Collector cut-off current	$V_{CB}=80\text{V}; I_E=0$			0.5	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
h_{FE-1}	DC current gain	$I_C=5\text{A}; V_{CE}=1.5\text{V}$	20		60	
h_{FE-2}	DC current gain	$I_C=15\text{A}; V_{CE}=4\text{V}$	4			
f_T	Transition frequency	$I_C=1\text{A}; V_{CE}=10\text{V}$	4			MHz

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PACKAGE OUTLINE

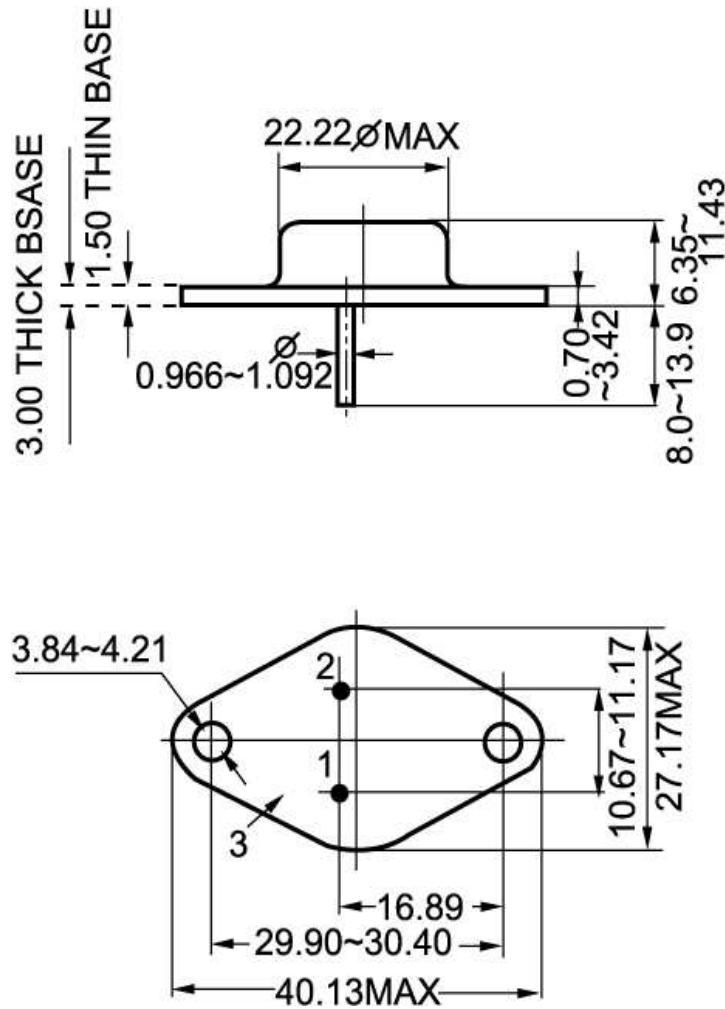


Fig.2 outline dimensions (unindicated tolerance:±0.10mm)