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(Ta=□)

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

Tj=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=25μs; 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
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	1.75	□/W

PACKAGE OUTLINE

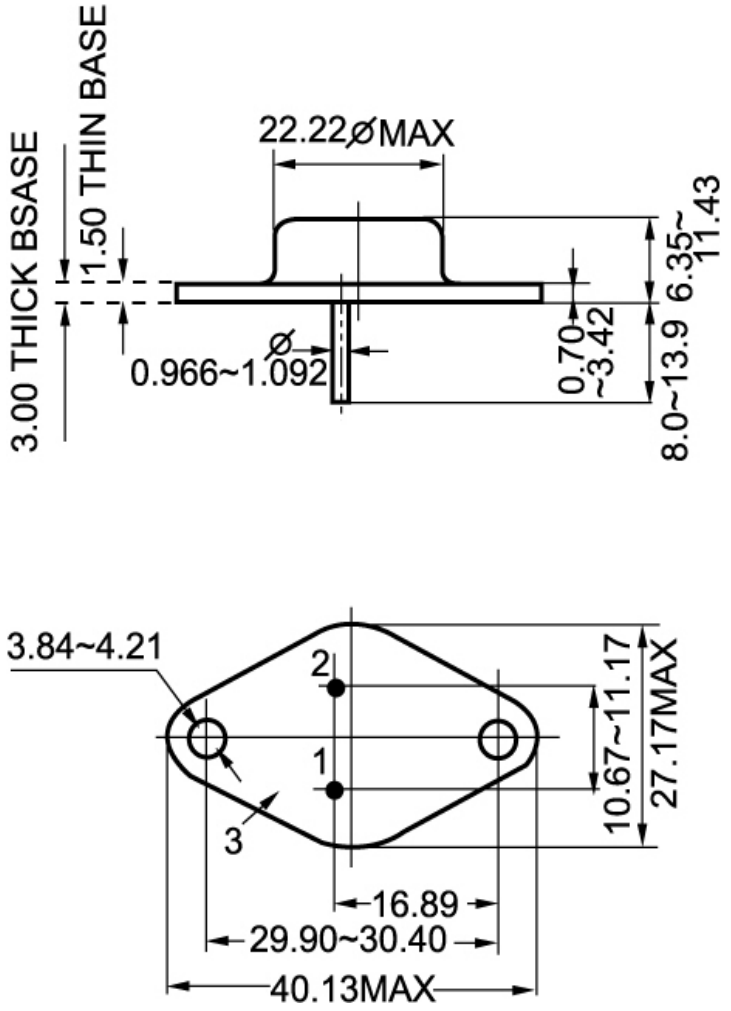

Fig.2 outline dimensions (unindicated tolerance:±0.1mm)