Silicon NPN Power Transistors 2N5631

DESCRIPTION

- With TO-3 package
- Complement to type 2N6031
- High collector-emitter sustaining voltage
- High DC current gain@I_C=8A
- Low collector saturation voltage

APPLICATIONS

- For high power audio amplifier and high voltage switching regulator circuits applications

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

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings(Ta=℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	140	V
V_{CEO}	Collector-emitter voltage	Open base	140	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		16	A
I_{CM}	Collector current-peak		20	A
I_B	Base current		5.0	A
P_D	Total Power Dissipation	T_C=25℃	200	W
T_j	Junction temperature		200	℃
T_{stg}	Storage temperature		-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance junction to case	0.875	℃/W

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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=0.2A ;I_B=0	140			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	I_C=10A; I_B=1A			1.0	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	I_C=16A ;I_B=4A			2.0	V
V_{BEsat}	Base-emitter saturation voltage	I_C=10A; I_B=1A			1.8	V
V_{BE}	Base-emitter on voltage	I_C=8A ; V_{CE}=2V			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=ratedV_{CBO}; I_E=0			2.0	mA
I_{CEO}	Collector cut-off current	V_{CE}=70V; I_B=0			2.0	mA
I_{CEX}	Collector cut-off current	V_{CE}=ratedV_{CB} ;$V_{BE(off)}$=1.5V T_C=150℃			2.0 7.0	mA
I_{EBO}	Emitter cut-off current	V_{EB}=7V; I_C=0			5.0	mA
h_{FE-1}	DC current gain	I_C=8A ; V_{CE}=2V	15		60	
h_{FE-2}	DC current gain	I_C=16A ; V_{CE}=2V	4			
C_{OB}	Output capacitance	I_E=0 ; V_{CB}=10V ;f=0.1MHz			500	pF
f_T	Transition frequency	I_C=1A ; V_{CE}=20V ;f=0.5MHz	1.0			MHz

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PACKAGE OUTLINE

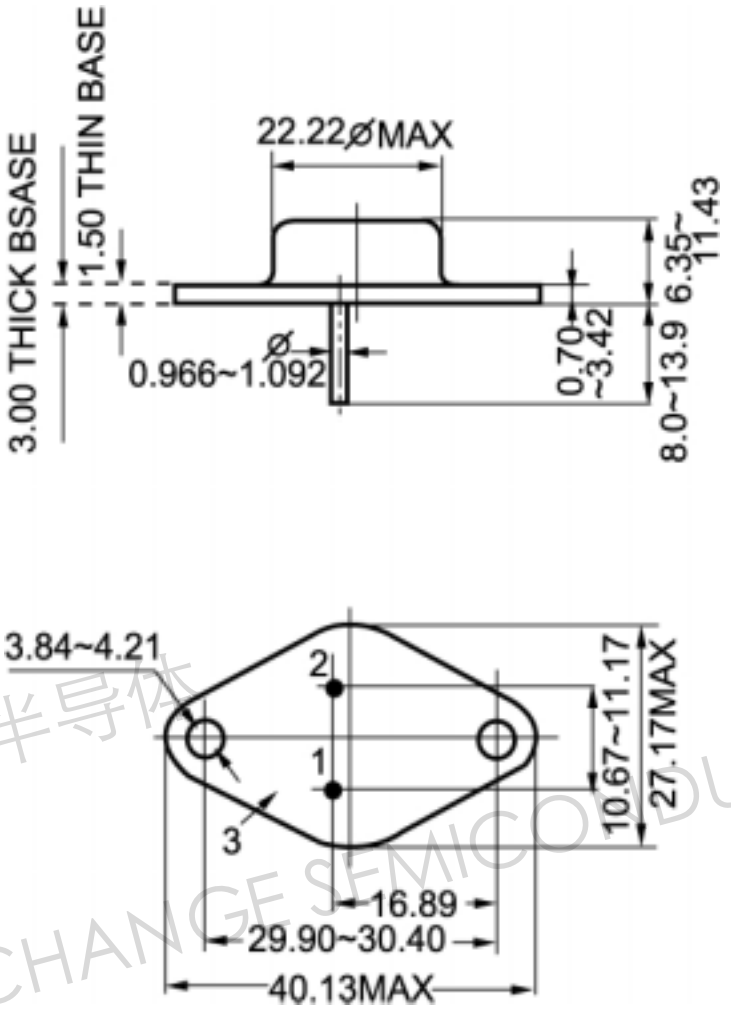

Fig.2 outline dimensions (unindicated tolerance:±0.10mm)