Silicon NPN Power Transistors 2N6676 2N6677 2N6678

DESCRIPTION

- With TO-3 package
- High voltage capability
- Fast switching speeds
- Low saturation voltage

APPLICATIONS

Designed for high voltage switching applications such as **:**

- Off-line power supplies
- Converter circuits
- Pulse width modulated regulators

PINNING (See Fig.2)

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	2N6676	Open emitter	450	V
		2N6677		550	
		2N6678		650	
V_{CEO}	Collector-emitter voltage	2N6676	Open base	300	V
		2N6677		350	
		2N6678		400	
V_{EBO}	Emitter-base voltage		Open collector	8	V
I_C	Collector current			15	A
I_{CM}	Collector current-peak			20	A
I_B	Base current			5	A
P_T	Total power dissipation		T_c=25℃	175	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	2N6676	I_C=0.2A ; I_B=0	300			V
		2N6677		350			
		2N6678		400			
V_{CEsat}	Collector-emitter saturation voltage		I_C=15A; I_B=3A			1.5	V
V_{BEsat}	Base-emitter saturation voltage		I_C=15A; I_B=3A			1.5	V
I_{CEV}	Collector cut-off current		V_{CE}=RatedV_{CEV};$V_{BE(off)}$=-1.5V T_C=100℃			0.1 1.0	mA
I_{EBO}	Emitter cut-off current		V_{EB}=8V; I_C=0			2.0	mA
h_{FE-1}	DC current gain		I_C=1A ; V_{CE}=5V	15		50	
h_{FE-2}	DC current gain		I_C=15A ; V_{CE}=3V	8			
C_{OB}	Output capacitance		I_E=0 ;V_{CB}=10V;f=0.1MHz			500	pF
f_T	Transition frequency		I_C=1A ; V_{CE}=10V;f=5.0MHz	3			MHz

Switching times

t_d	Delay time	I_C=15A; I_{B1}=-I_{B2}=3.0A V_{CC}=200V; t_p=20μs; Duty Cycle≤2.0% V_{BB}=6V,R_L=1.35Ω			0.2	μs
t_r	Rise time				0.6	μs
t_s	Storage time				2.5	μs
t_f	Fall time				0.6	μs

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal resistance from junction to case	1.0	℃/W

PACKAGE OUTLINE

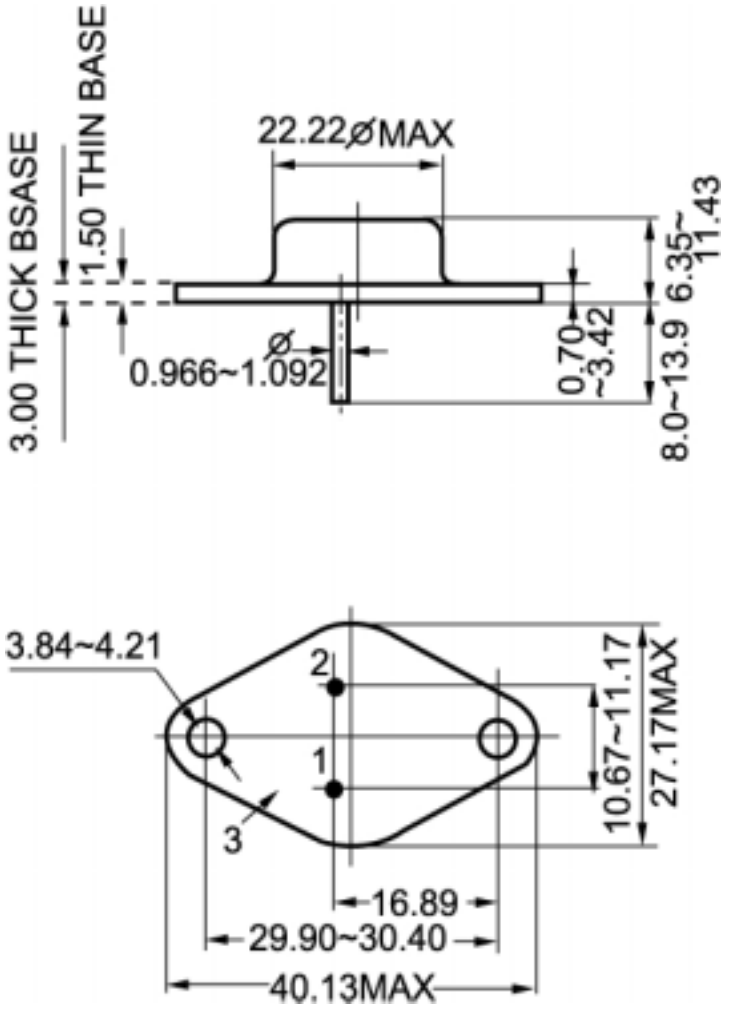

Fig.2 Outline dimensions