

Silicon NPN Power Transistors

2N5804 2N5805

DESCRIPTION

- With TO-3 package
- High breakdown voltage

APPLICATIONS

- Switching regulator
- Inverters
- Solenoid and relay drivers
- Motor controls

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N5804	Open emitter	300	V
		2N5805		375	
V_{CEO}	Collector-emitter voltage	2N5804	Open base	225	V
		2N5805		300	
V_{EBO}	Emitter-base voltage		Open collector	6	V
I_C	Collector current			5	A
P_D	Total Power Dissipation		$T_C = 25^\circ\text{C}$	110	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.25	$^\circ\text{C/W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N5804	I _C =0.1A ; I _B =0	225			V
		2N5805		300			
V _{CEsat}	Collector-emitter saturation voltage		I _C =5A; I _B =1A			1.0	V
V _{BEsat}	Base-emitter saturation voltage		I _C =5A ; I _B =1A			1.5	V
I _{CEO}	Collector cut-off current		V _{CE} =RatedV _{CE} ; I _B =0			10	mA
I _{CEV}	Collector cut-off current	2N5804	V _{CE} =RatedV _{CE} ; V _{BE(off)} =1.5V			12	mA
		2N5805				10	
I _{EBO}	Emitter cut-off current		V _{EB} =7V; I _C =0			1.0	mA
h _{FE}	DC current gain		I _C =5A ; V _{CE} =4V	20		100	
f _T	Transistion frequency		I _C =1A ; V _{CE} =10V	15			MHz

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PACKAGE OUTLINE

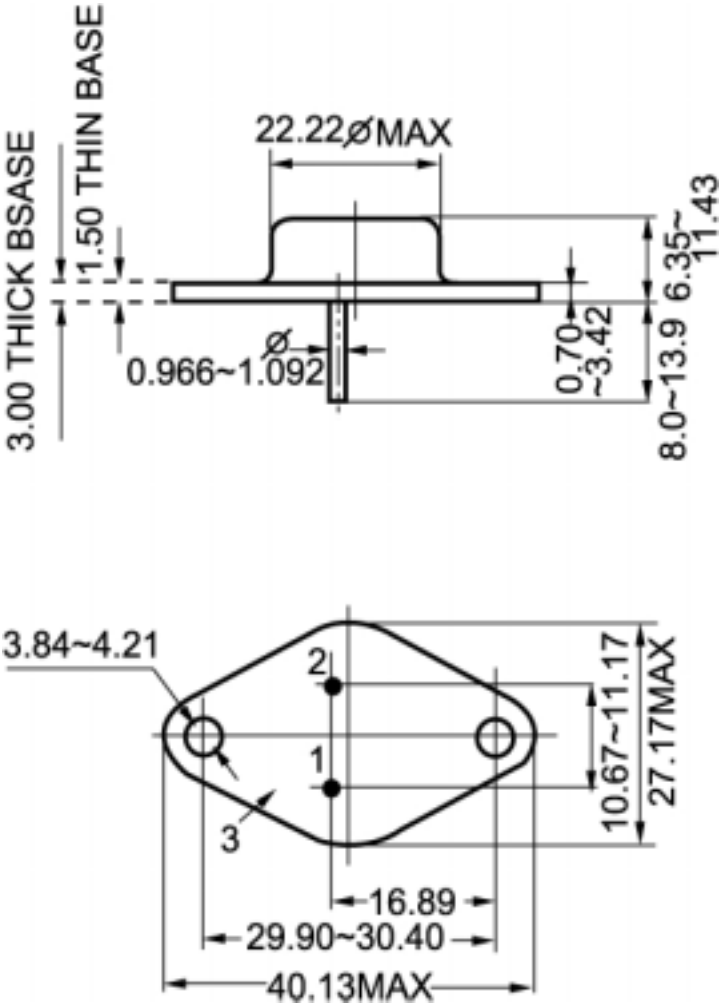


Fig.2 outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)