

Silicon NPN Power Transistors

2N3771 2N3772

DESCRIPTION

- With TO-3 package
- High power and high current capability

APPLICATIONS

- For linear amplifiers, series pass regulators and inductive switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector



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

Absolute maximum ratings($T_a =$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2N3771	50	V
		2N3772	100	
V_{CEO}	Collector-emitter voltage	2N3771	40	V
		2N3772	60	
V_{EBO}	Emitter-base voltage	2N3771	5	V
		2N3772	7	
I_C	Collector current	2N3771	30	A
		2N3772	20	
I_{CM}	Collector current-peak		30	A
I_B	Base current	2N3771	7.5	A
		2N3772	5.0	
I_{BM}	Base current-peak		15	A
P_D	Total Power Dissipation	$T_C=25$	150	W
T_j	Junction temperature		200	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	1.17	/W

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CHARACTERISTICS

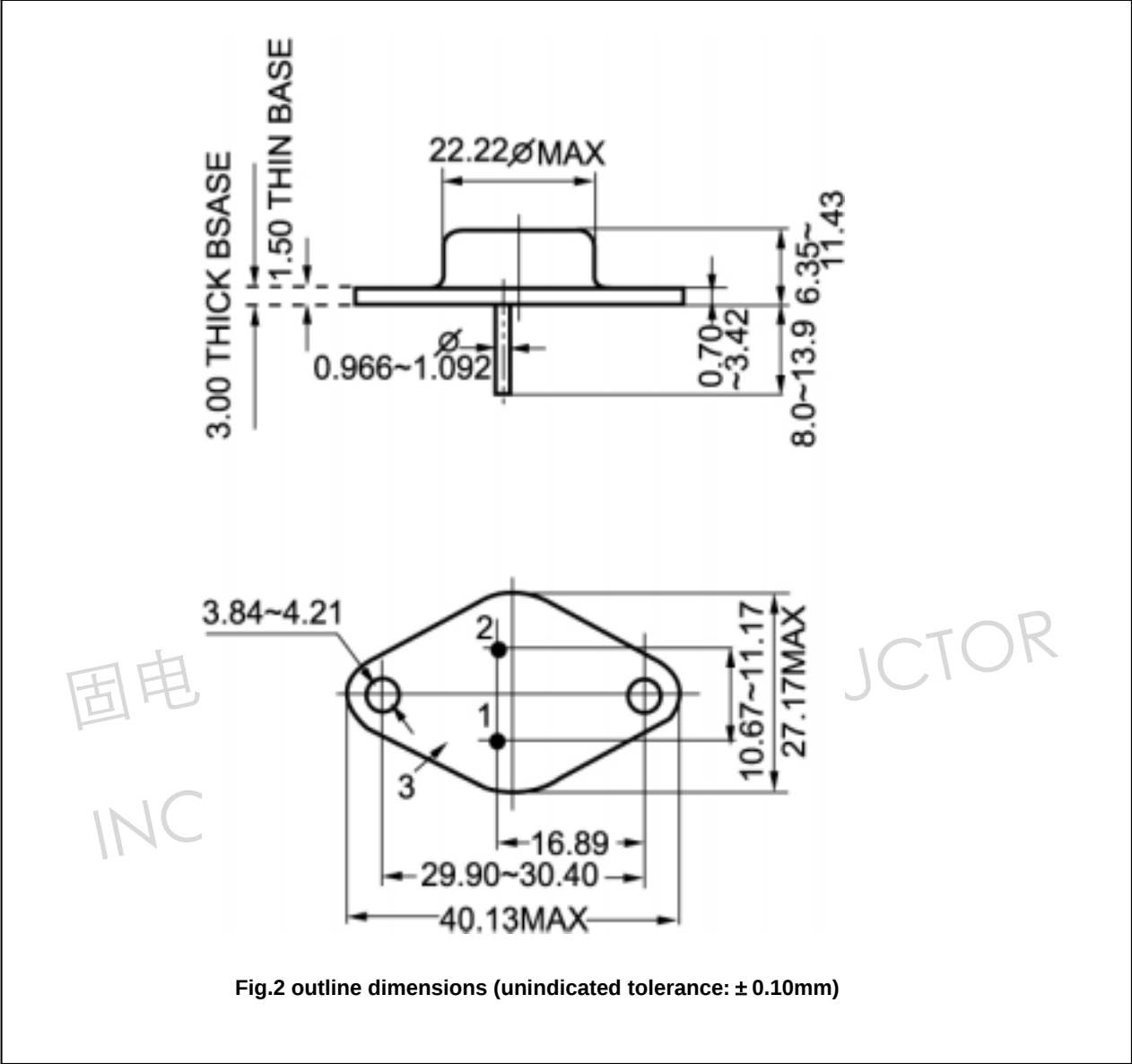
T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	2N3771	I _C =0.2A ; I _B =0	40			V
		2N3772		60			
V _{CEsat-1}	Collector-emitter saturation voltage	2N3771	I _C =15A ; I _B =1.5A			2.0	V
		2N3772	I _C =10A ; I _B =1.0A			1.4	
V _{CEsat-2}	Collector-emitter saturation voltage	2N3771	I _C =30A ; I _B =6A			4.0	V
		2N3772	I _C =20A ; I _B =4A				
V _{BE}	Base-emitter on voltage	2N3771	I _C =15A ; V _{CE} =4V			2.7	V
		2N3772	I _C =10A ; V _{CE} =4V			2.2	
I _{CEO}	Collector cut-off current	2N3771	V _{CE} =30V ; I _B =0			10	mA
		2N3772	V _{CE} =50V ; I _B =0				
I _{CEV}	Collector cut-off current	2N3771	V _{CE} =50V ; V _{BE(off)} =1.5V V _{CE} =30V T _C =150			2.0 10.0	mA
		2N3772	V _{CE} =100V ; V _{BE(off)} =1.5V V _{CE} =45V T _C =150			5.0 10.0	
I _{CBO}	Emitter cut-off current	2N3771	V _{CB} =50V ; I _E =0			2.0	mA
		2N3772	V _{CB} =100V ; I _E =0			5.0	
I _{EBO}	Emitter cut-off current	2N3771	V _{EB} =5V ; I _C =0			5.0	mA
		2N3772	V _{EB} =7V ; I _C =0				
h _{FE-1}	DC current gain	2N3771	I _C =15A ; V _{CE} =4V	15		60	
		2N3772	I _C =10A ; V _{CE} =4V				
h _{FE-2}	DC current gain	2N3771	I _C =30A ; V _{CE} =4V	5			
		2N3772	I _C =20A ; V _{CE} =4V				
f _T	Transition frequency		I _C =1.0A ; V _{CE} =4V ; f=50kHz	0.2			MHz
I _{s/b}	Second breakdown energy with base forward biased	2N3771	V _{CE} =40Vdc, t=1.0s, Nonrepetitive	3.75			A
		2N3772	V _{CE} =60Vdc, t=1.0s, Nonrepetitive	2.5			

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PACKAGE OUTLINE



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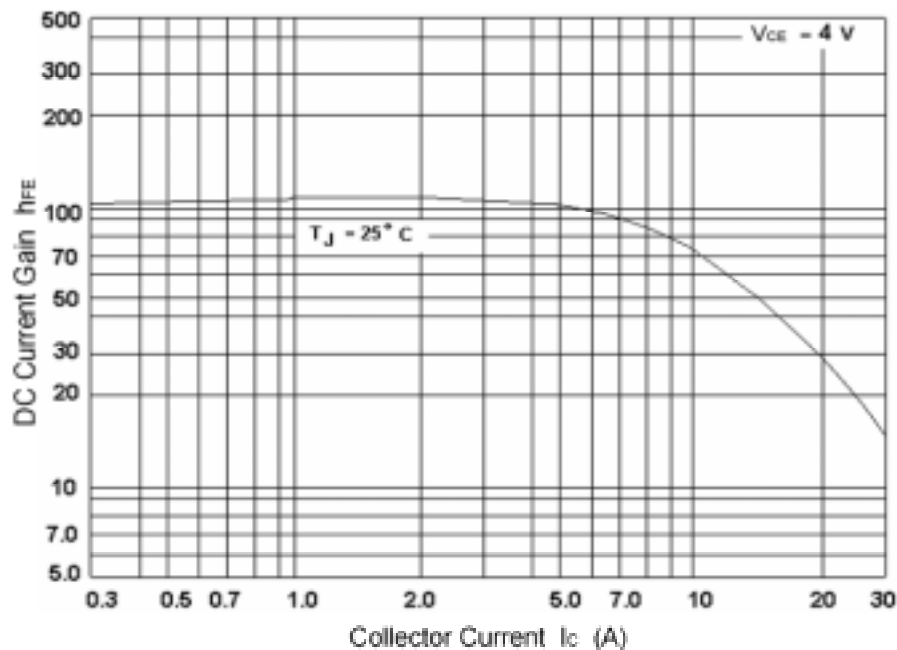


Fig.3 DC current Gain

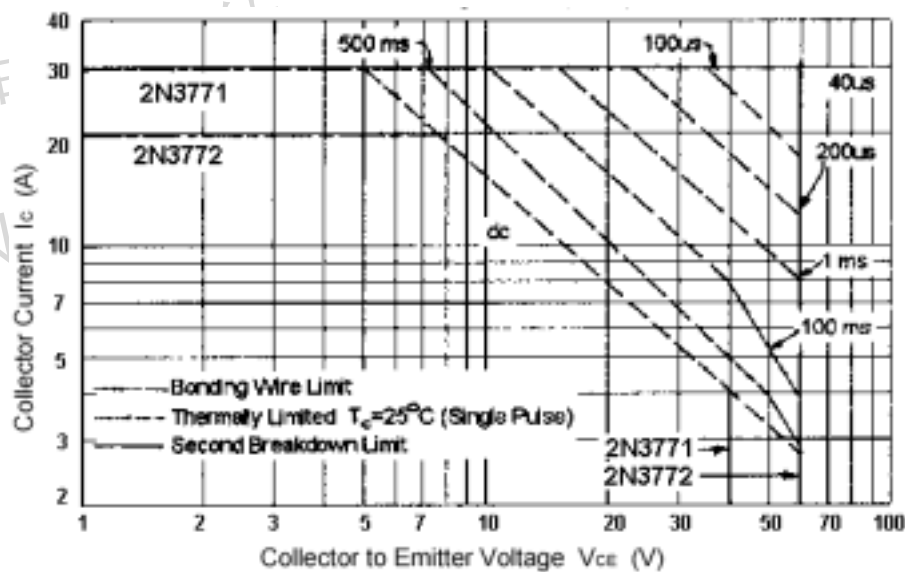


Fig.4 Safe Operating Area