

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

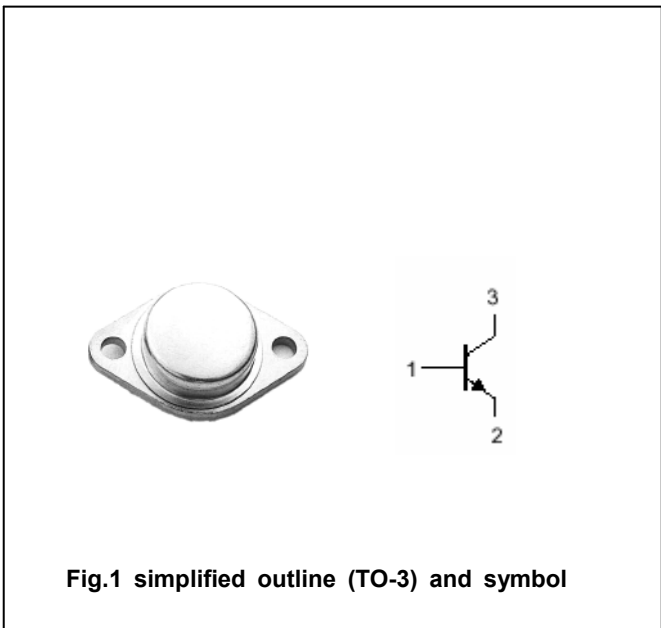


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
V _{CBO}	Collector-base voltage	Open emitter	2N3771	50	V
			2N3772	100	
V _{CEO}	Collector-emitter voltage	Open base	2N3771	40	V
			2N3772	60	
V _{EBO}	Emitter-base voltage	Open collector	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

Silicon NPN Power Transistors

2N3771 2N3772

CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CE0(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 °C			2.0 10.0	mA
		2N3772	V _{CE} =100V ; V _{BE(off)} =1.5V V _{CE} =45V T _C =150 °C			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			

Silicon NPN Power Transistors

2N3771 2N3772

PACKAGE OUTLINE

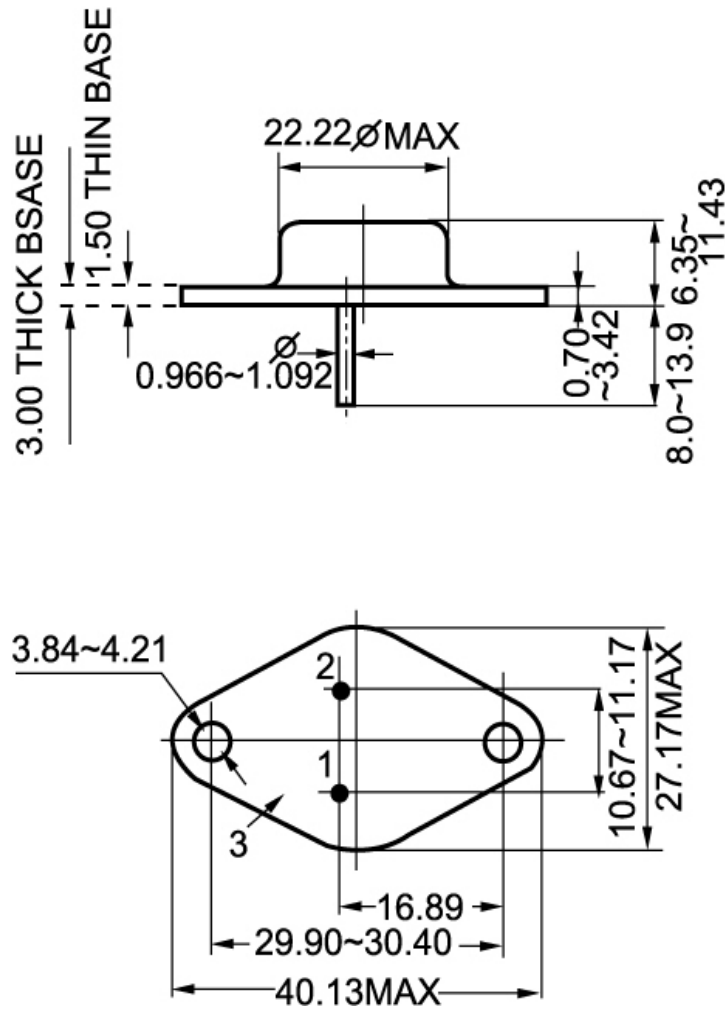


Fig.2 outline dimensions (unindicated tolerance:±0.10mm)

Silicon NPN Power Transistors

2N3771 2N3772

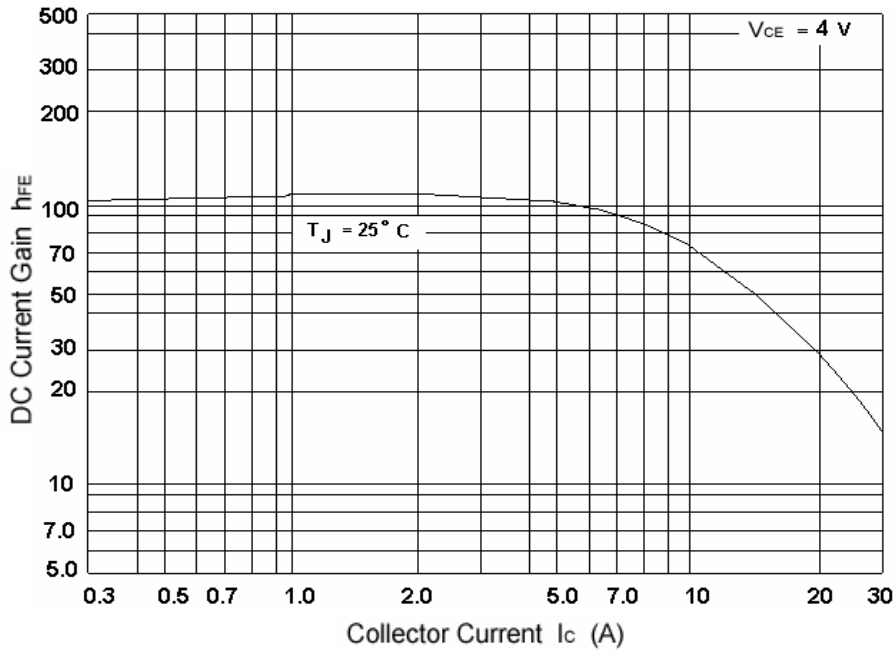


Fig.3 DC current Gain

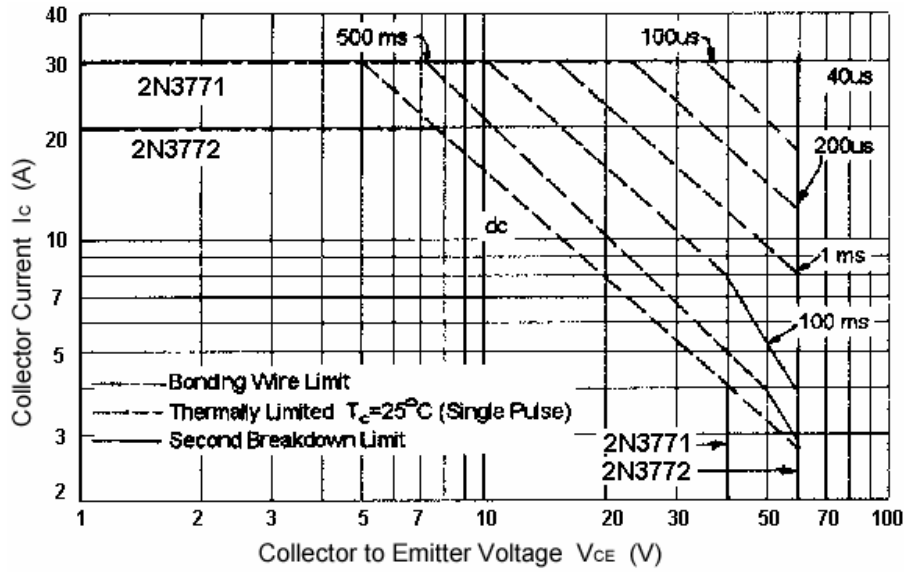


Fig.4 Safe Operating Area