

Silicon PNP Power Transistors

2SA1771

DESCRIPTION

- With TO-220F package
- Low collector saturation voltage
- High speed switching time

APPLICATIONS

- High current switching

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

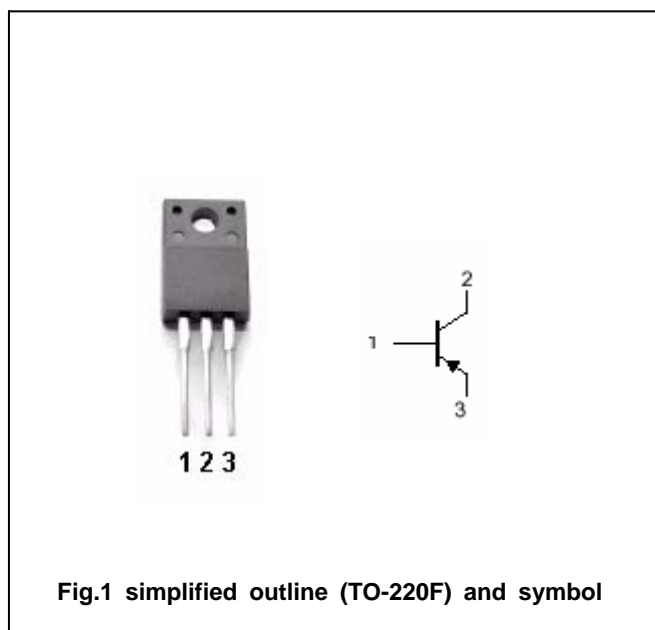


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-80	V
V_{CEO}	Collector-emitter voltage	Open base	-80	V
V_{EBO}	Emitter-base voltage	Open collector	-14	V
I_C	Collector current		-12	A
I_B	Base current		-1.2	A
P_C	Collector dissipation	$T_C=25^\circ\text{C}$	30	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

Silicon PNP Power Transistors

2SA1771

CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =-50mA ; I _B =0	-80			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =-6A ; I _B =-0.3A			-0.4	V
V _{BEsat}	Base-emitter saturation voltage	I _C =-6A ; I _B =-0.3A			-1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =-80V ; I _E =0			-10	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =-14V ; I _C =0			-10	μ A
h _{FE-1}	DC current gain	I _C =-1A ; V _{CE} =-1V	100		320	
h _{FE-2}	DC current gain	I _C =-6A ; V _{CE} =-1V	40			
f _T	Transition frequency	I _C =-1A ; V _{CE} =-5V		50		MHz
C _{OB}	Collector output capacitance	f=1MHz ; V _{CB} =-10V		300		pF

t _{on}	Turn-on time	I _{B1} =-I _{B2} =-0.3A ; V _{CC} =-30V R _L =5 Ω Duty cycle ≤ 1%		0.2		μ s
t _s	Storage time			0.6		μ s
t _f	Fall time			0.1		μ s

Silicon PNP Power Transistors

2SA1771

PACKAGE OUTLINE

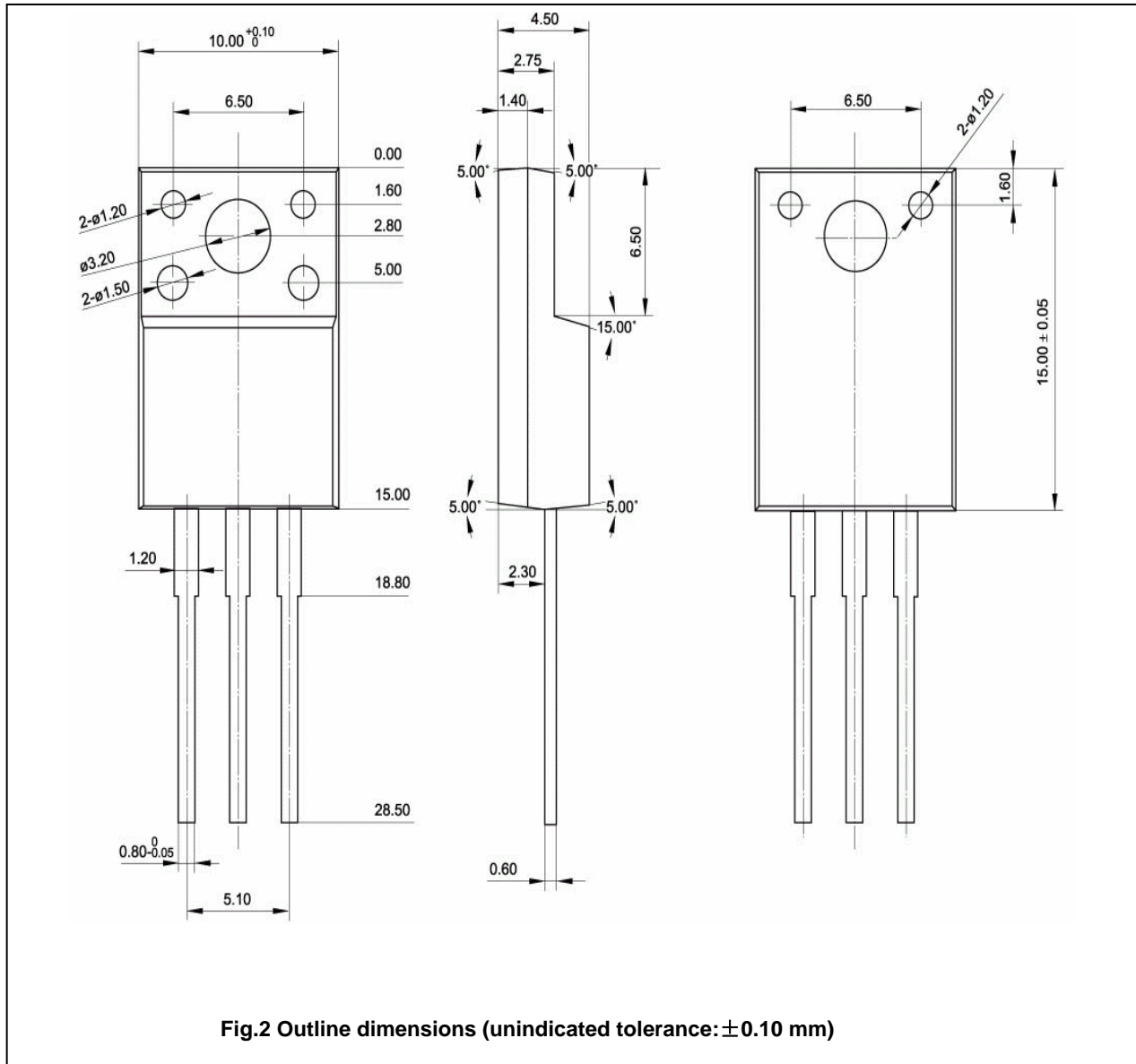


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

Silicon PNP Power Transistors

2SA1771

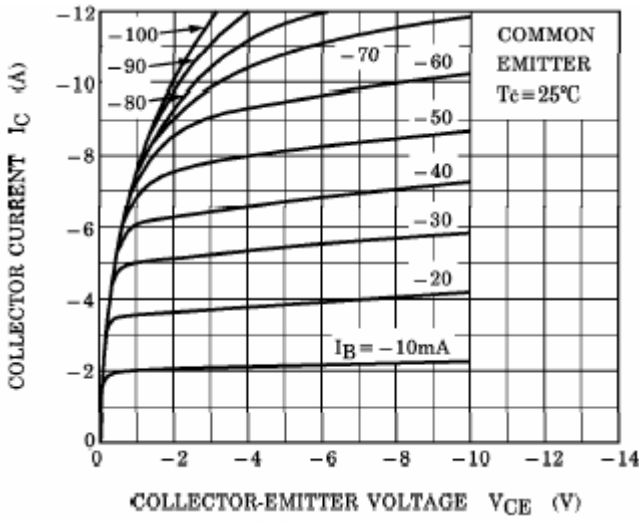


Fig.3 Static Characteristic

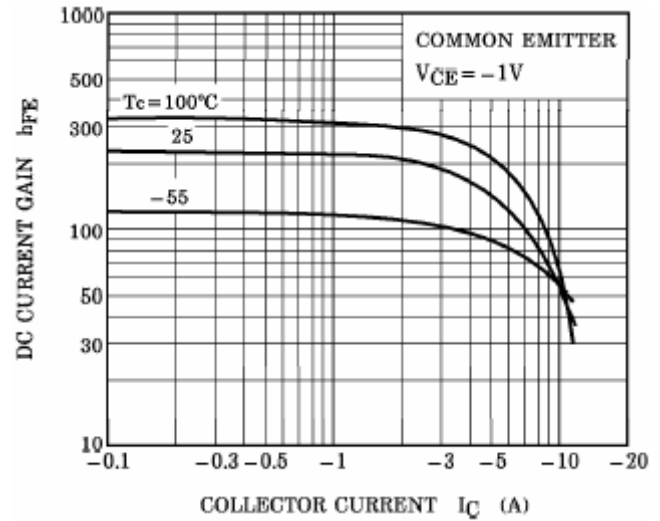


Fig.4 DC current Gain

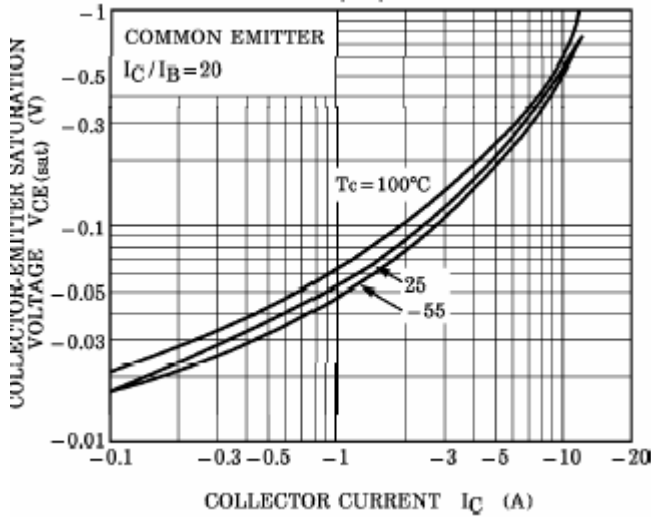


Fig.5 Collector-Emitter Saturation Voltage

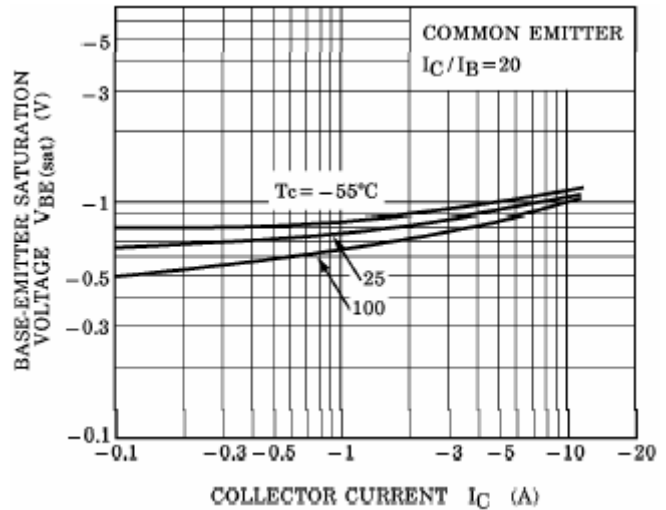


Fig.6 Base-Emitter Saturation Voltage

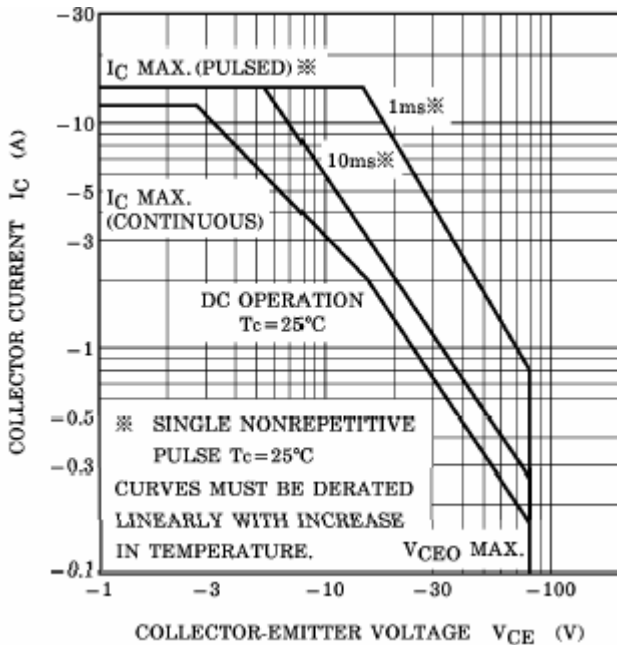


Fig.7 Safe Operating Area