

Silicon NPN Power Transistors

2SC3851 2SC3851A

DESCRIPTION

- With TO-220F package
- Complement to type 2SA1488/1488A

APPLICATIONS

- Audio and PPC high voltage power supply ,and general purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

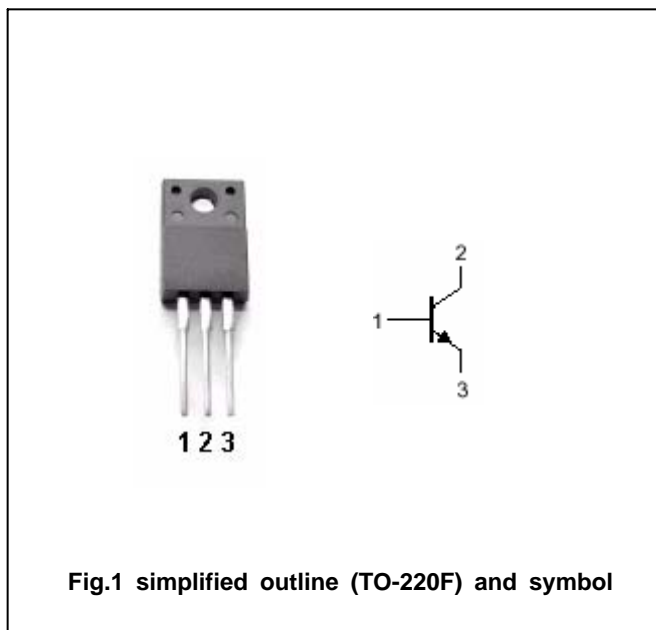


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	2SC3851	80	V
		2SC3851A	100	
V _{CEO}	Collector-emitter voltage	2SC3851	60	V
		2SC3851A	80	
V _{EBO}	Emitter-base voltage	Open collector	6	V
I _C	Collector current		4	A
I _B	Base current		1	A
P _C	Collector dissipation	T _C =25	25	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	2SC3851	I _C =25mA ; I _B =0	60			V
		2SC3851A		80			
V _{CEsat}	Collector-emitter saturation voltage		I _C =2.0A; I _B =0.2A			0.5	V
I _{CBO}	Collector cut-off current	2SC3851	V _{CB} =80V; I _E =0			0.1	mA
		2SC3851A	V _{CB} =100V; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current		V _{EB} =6V; I _C =0			0.1	mA
h _{FE}	DC current gain		I _C =1A ; V _{CE} =4V	40		320	
f _T	Transition frequency		I _C =0.2A ; V _{CE} =12V		15		MHz
C _{OB}	Output capacitance		I _E =0 ; V _{CB} =10V; f=1MHz		60		pF

Switching time

t _{on}	Turn-on time	I _C =2.0A I _{B1} =-I _{B2} =0.2A V _{CC} =12V , R _L =6		0.20		μs
t _s	Storage time			1.00		μs
t _f	Fall time			0.30		μs

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PACKAGE OUTLINE

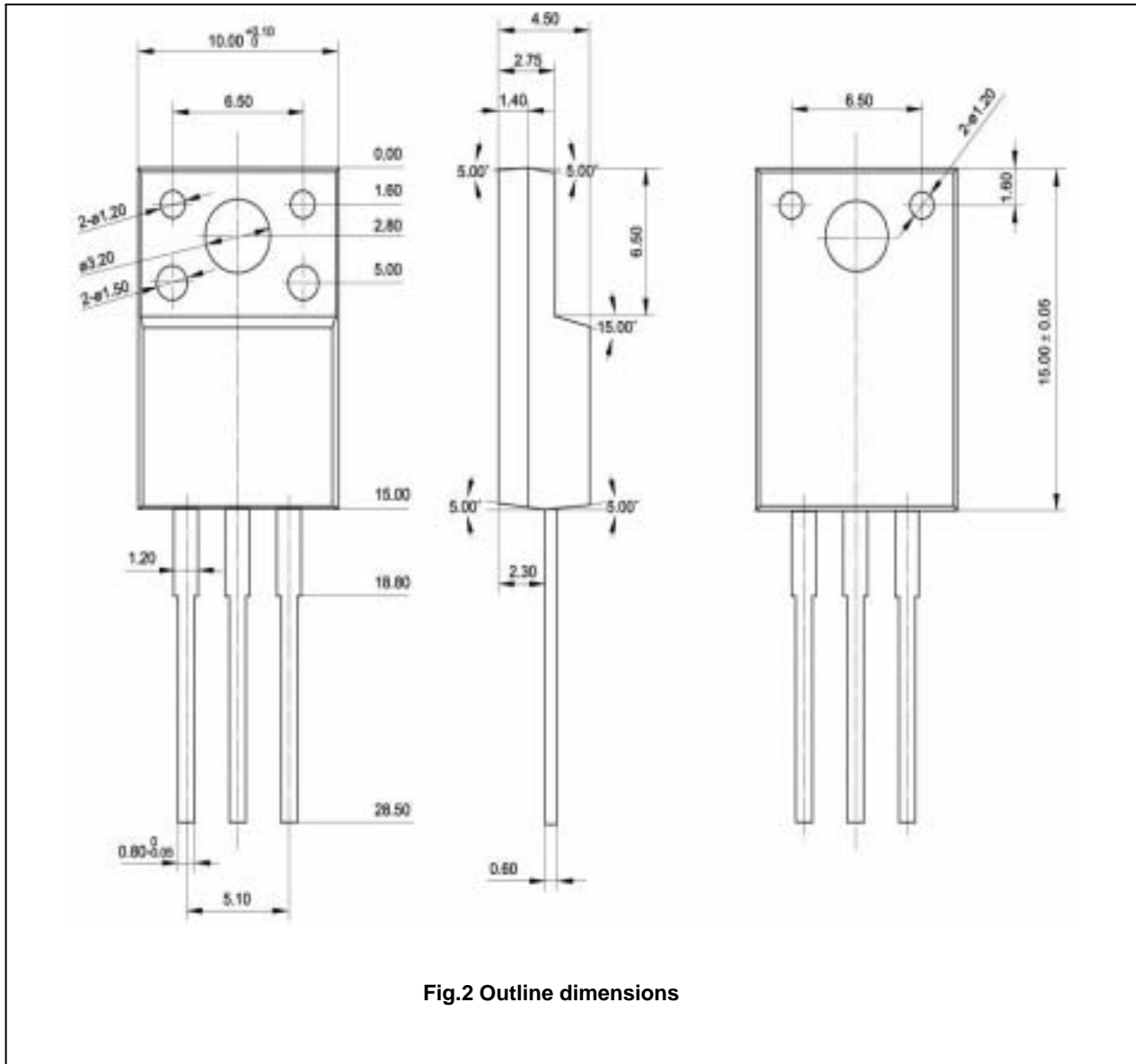


Fig.2 Outline dimensions

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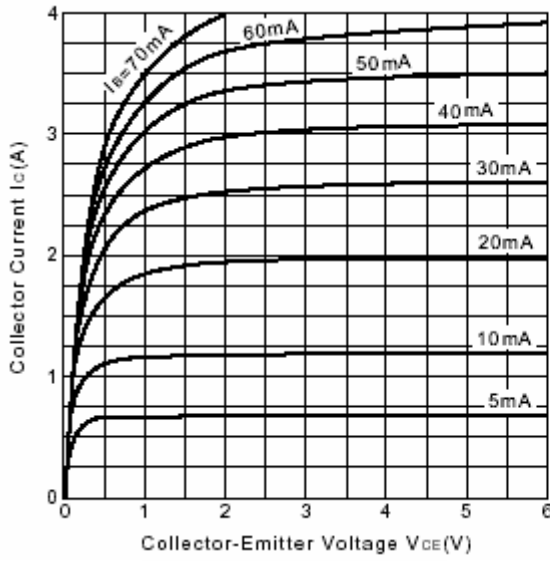


Fig.3 Static Characteristic

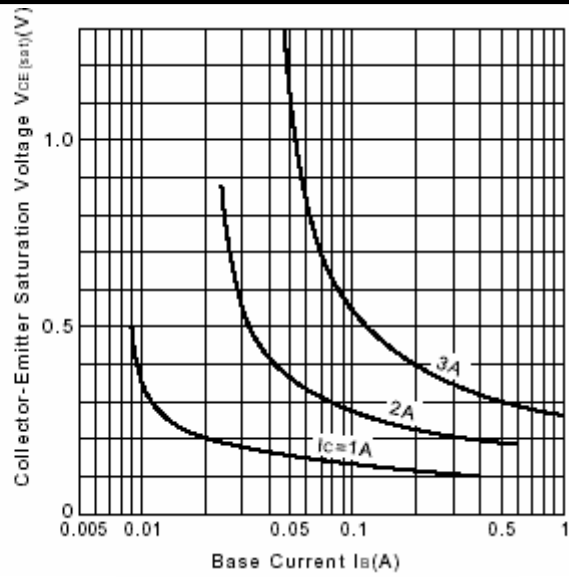


Fig.4 $V_{ce(sat)}-I_B$ Characteristics

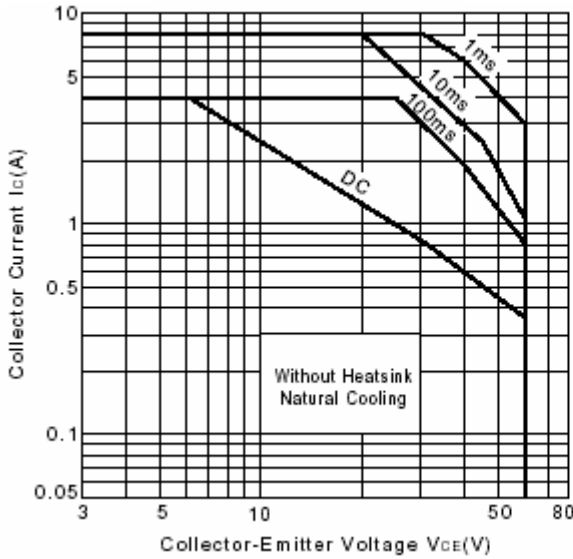


Fig.5 Safe Operating Area

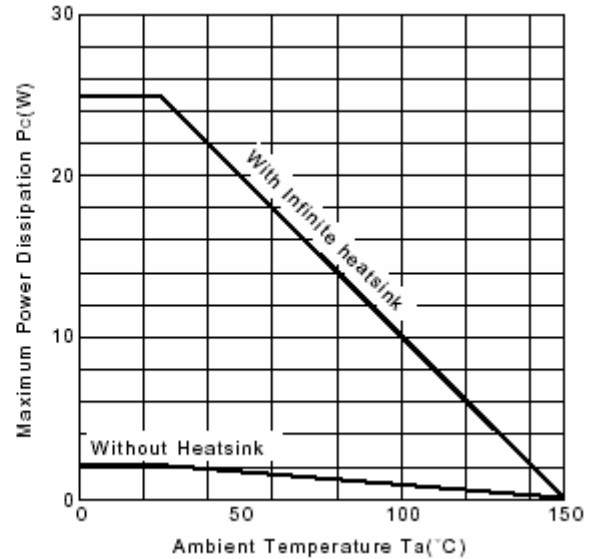


Fig.6 P_c-T_a Derating

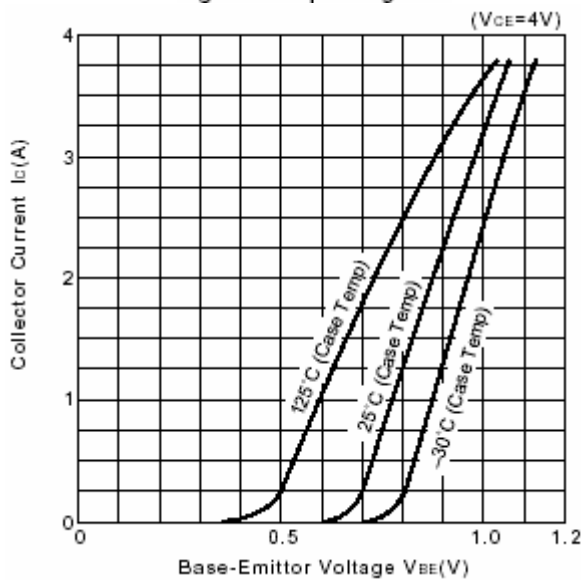


Fig.7 I_c-V_{BE}

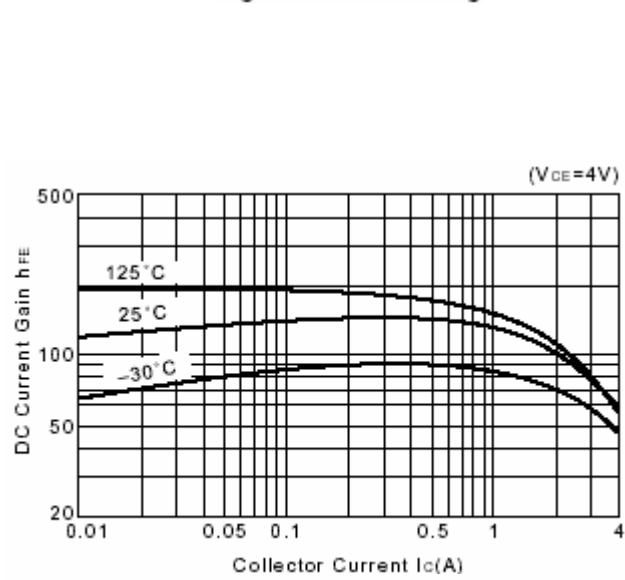


Fig.8 DC current Gain