

Silicon NPN Power Transistors

2SC3866

DESCRIPTION

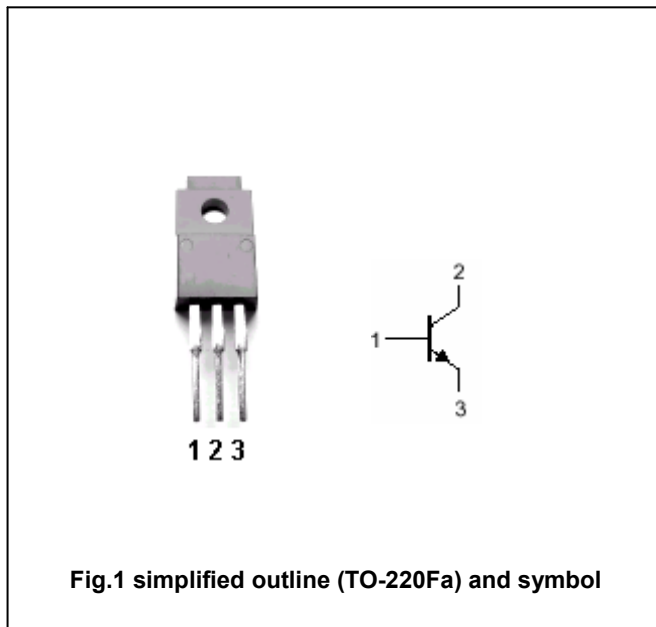
- With TO-220Fa package
- High speed switching
- High voltage
- High reliability

APPLICATIONS

- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	900	V
V _{CEO}	Collector-emitter voltage	Open base	800	V
V _{EBO}	Emitter-base voltage	Open collector	10	V
I _C	Collector current		3	A
I _B	Base current		1	A
P _C	Collector power dissipation	T _C =25°C	40	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction case	3.0	°C/W

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA, I _B =0	800			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA, I _E =0	900			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA, I _C =0	10			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =1A; I _B =0.2A			1.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =1A; I _B =0.2A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =900V; I _E =0			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =10V; I _C =0			1.0	mA
h _{FE}	DC current gain	I _C =1A; V _{CE} =5V	10			

Switching times

t _{on}	Turn-on time	I _C =2A; I _{B1} =0.4A I _{B2} =-0.8A; R _L =150Ω Pw=20μs, Duty≤2%			1.0	μs
t _s	Storage time				4.0	μs
t _f	Fall time				0.8	μs

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PACKAGE OUTLINE

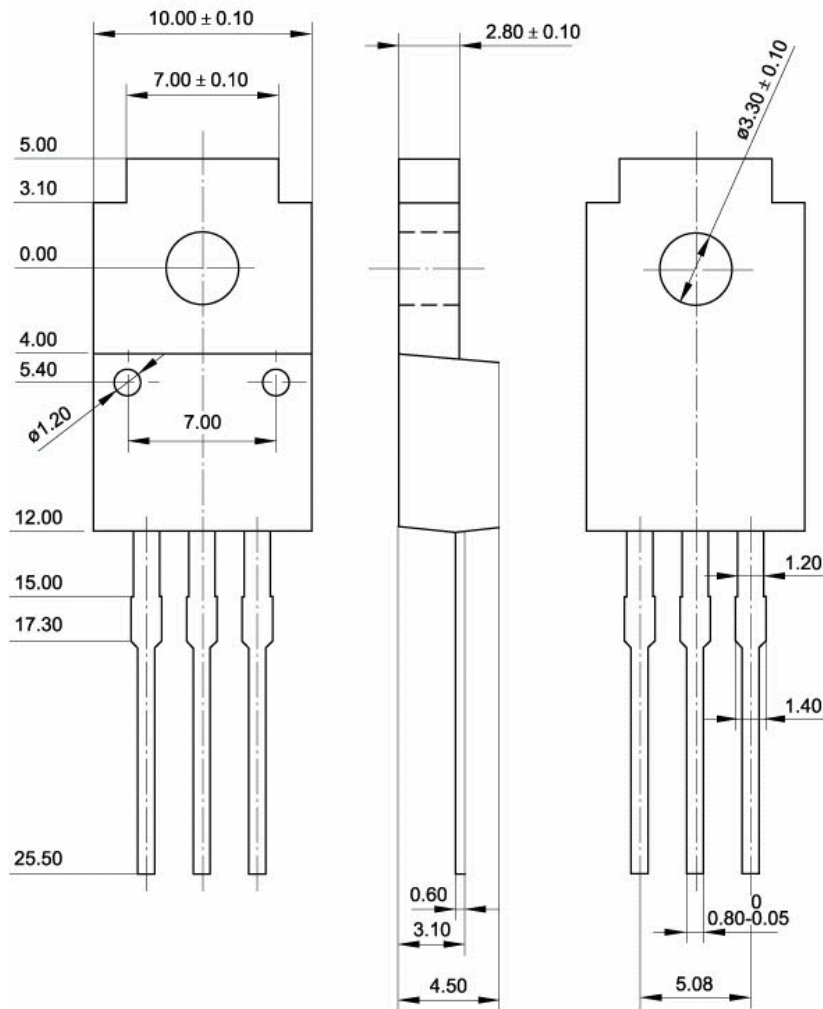


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

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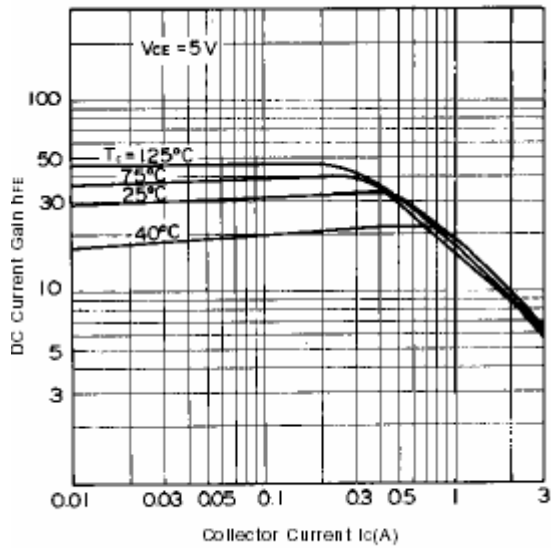


Fig.3 DC current Gain

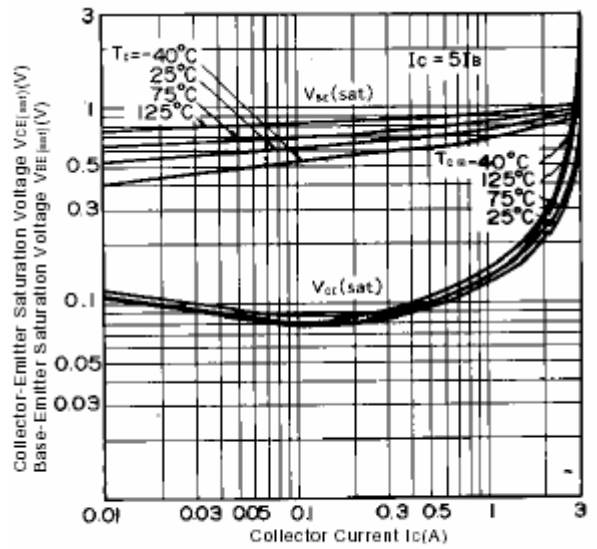


Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

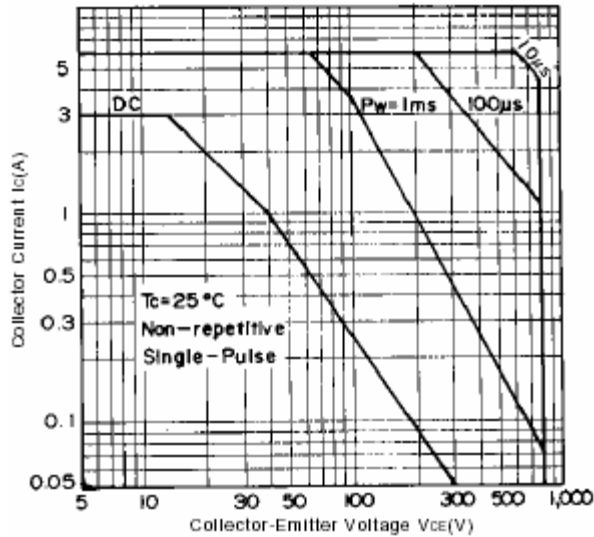


Fig.5 Safe Operating Area