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

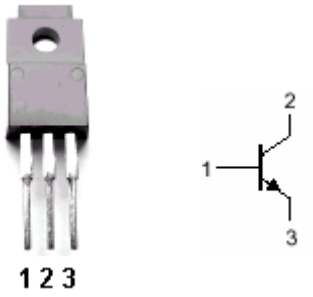

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings (Ta=25℃)

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℃	40	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance junction case	3.0	℃/W

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CHARACTERISTICS

Tj=25℃ 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

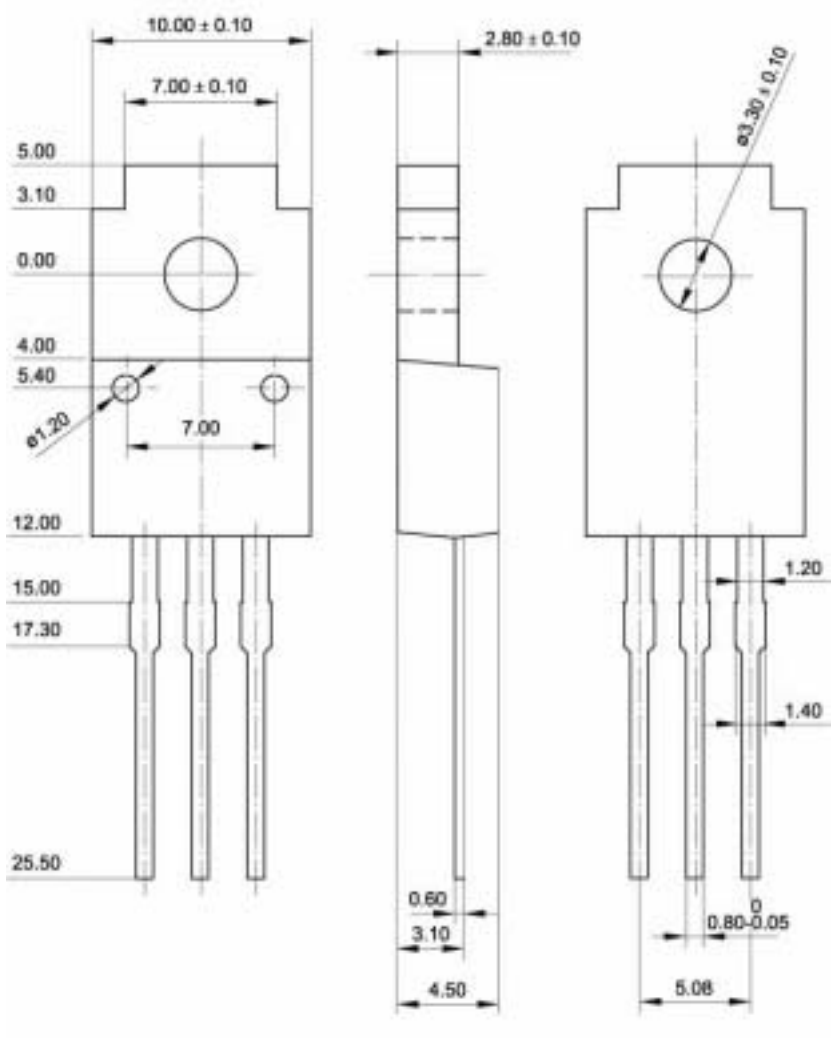

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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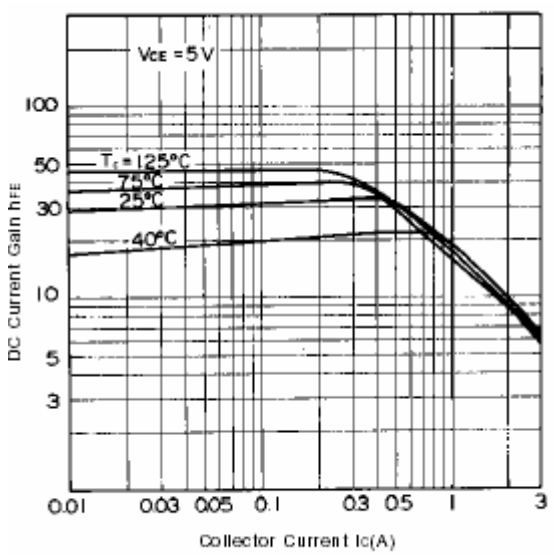

Fig.3 DC current Gain

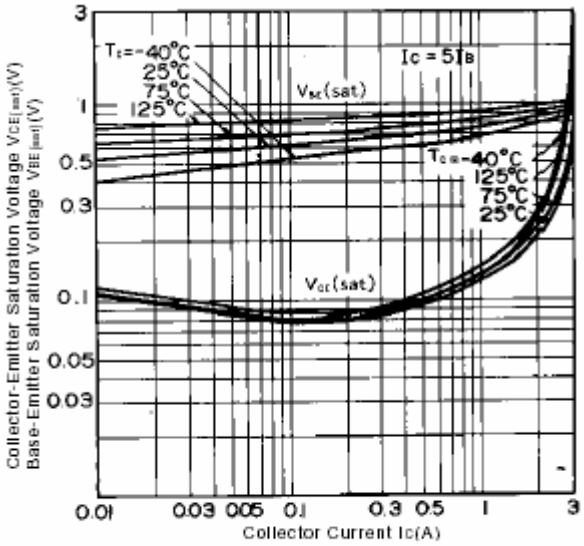

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

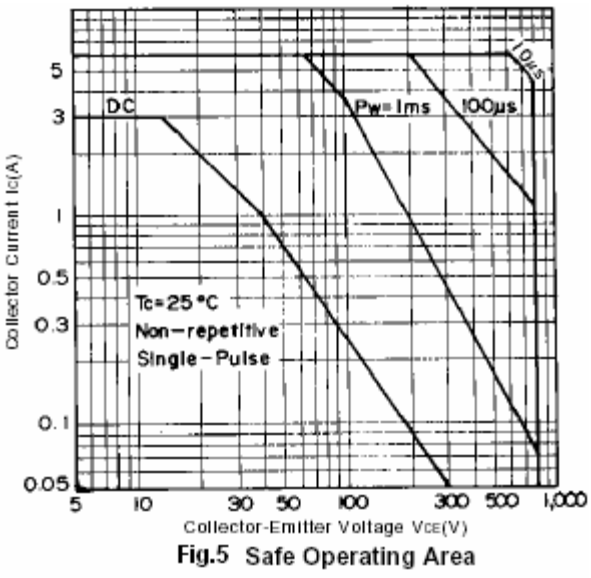

Fig.5 Safe Operating Area