

Silicon NPN Power Transistors

2SC4064

**DESCRIPTION**

- With TO-220F package
- Complement to type 2SA1567
- Low collector saturation voltage

**APPLICATIONS**

- For DC motor driver and general purpose

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

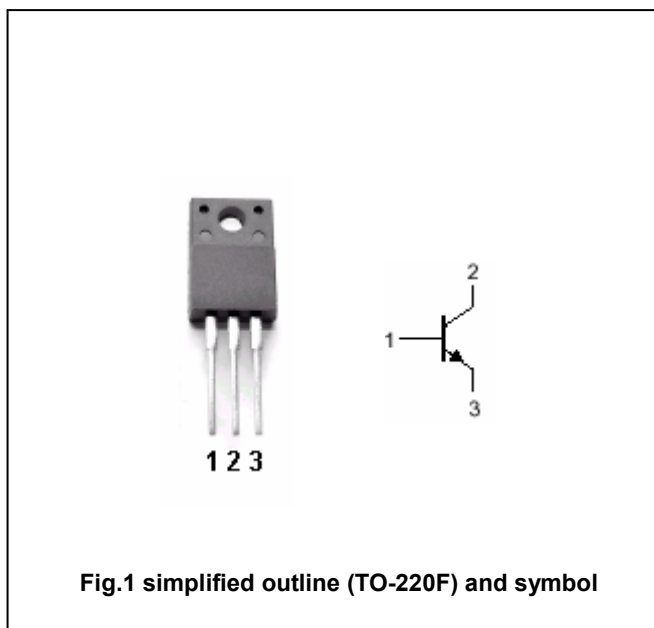


Fig.1 simplified outline (TO-220F) and symbol

**Absolute maximum ratings (Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	50	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	50	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		12	A
I <sub>B</sub>	Base current		3	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	35	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =25mA; I <sub>B</sub> =0	50			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =6A; I <sub>B</sub> =0.3 A			0.35	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =50V; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			10	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =6A ; V <sub>CE</sub> =1V	50			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =12V		40		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		180		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =6A; R <sub>L</sub> =4Ω I <sub>B1</sub> =- I <sub>B2</sub> =0.12A V <sub>CC</sub> =24V		0.60		μs
t <sub>s</sub>	Storage time			1.40		μs
t <sub>f</sub>	Fall time			0.40		μs

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PACKAGE OUTLINE

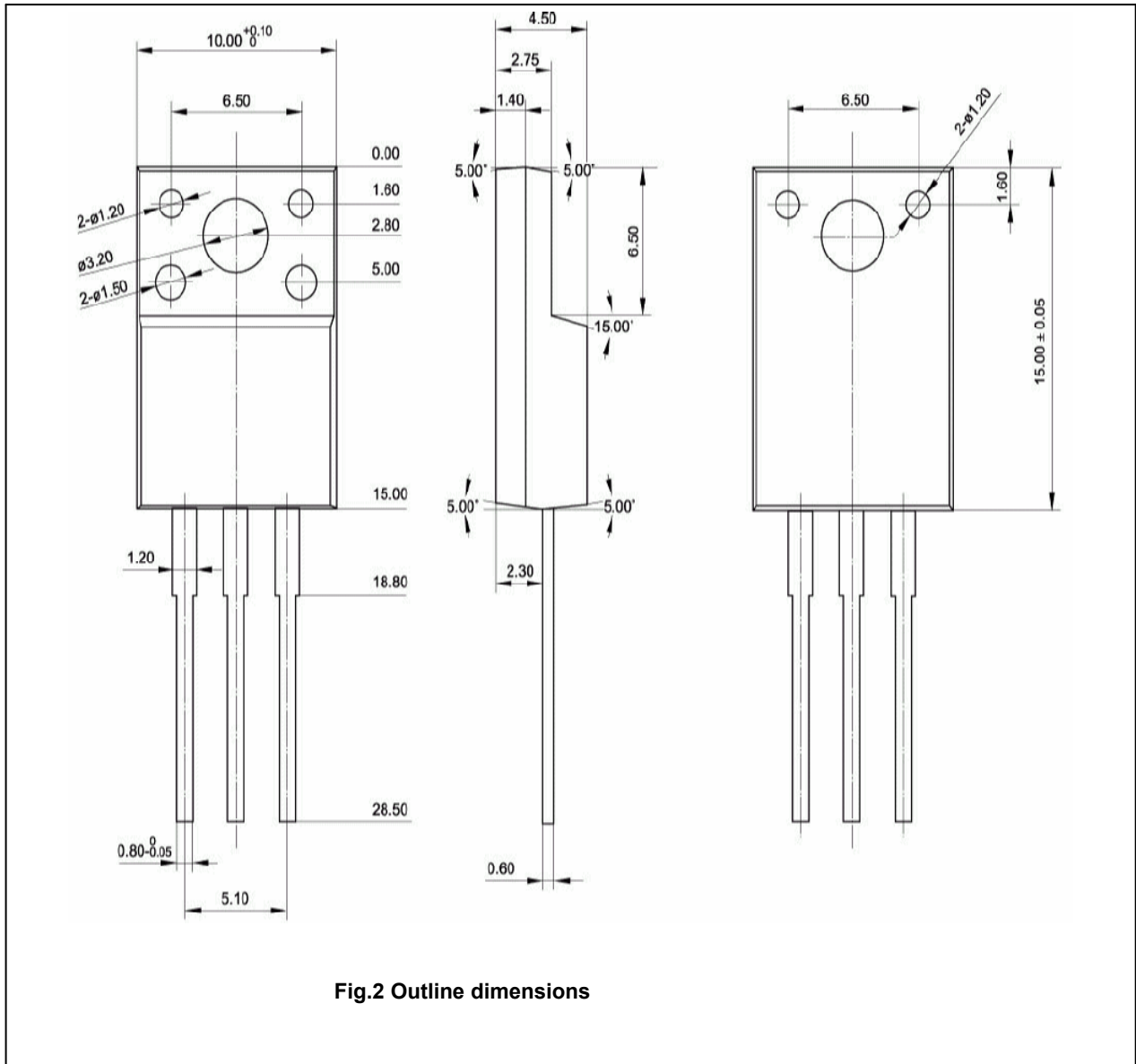


Fig.2 Outline dimensions

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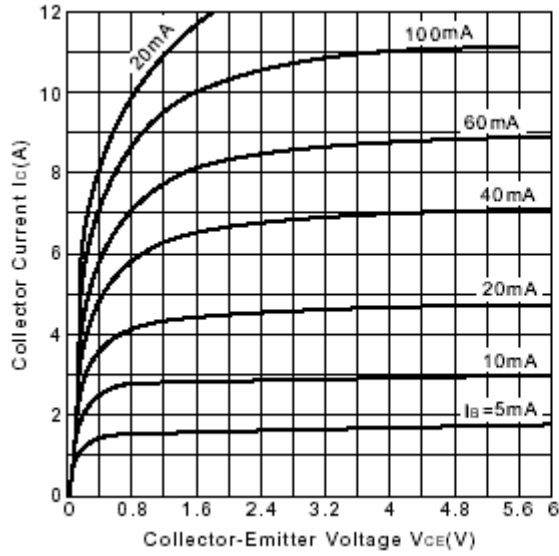


Fig.3 Static Characteristic

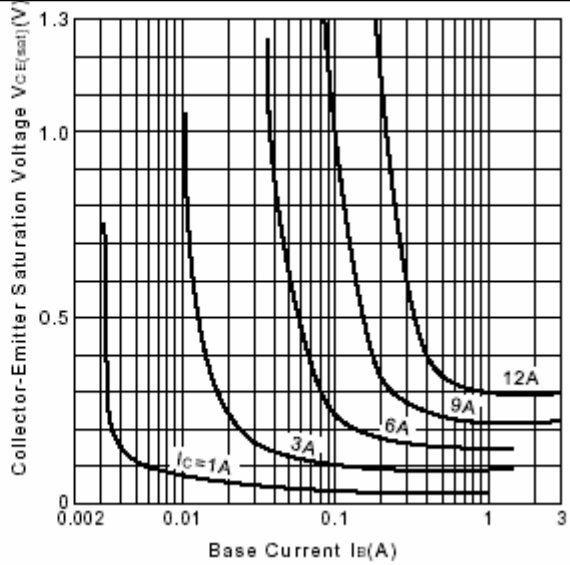


Fig.4  $V_{CE(sat)}-I_B$  Characteristics

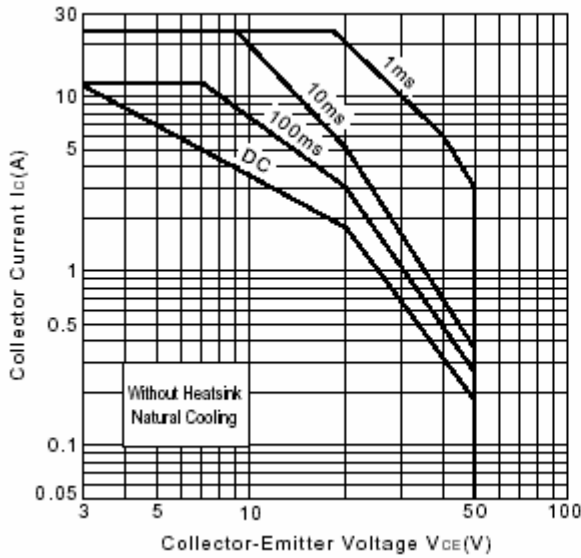


Fig.5 Safe Operating Area

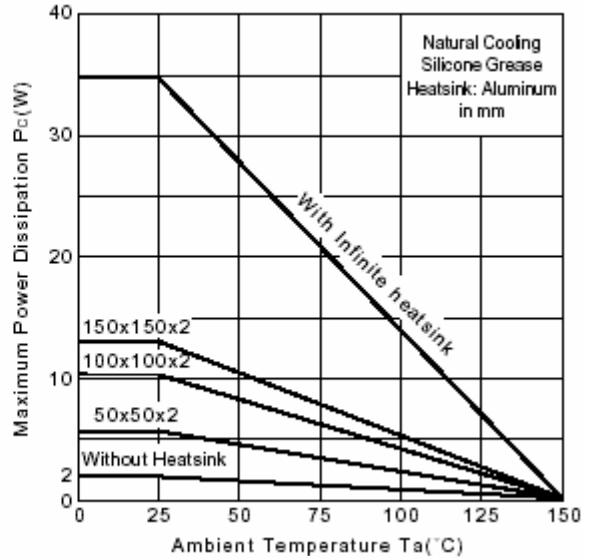


Fig.6  $P_c-T_a$  Derating

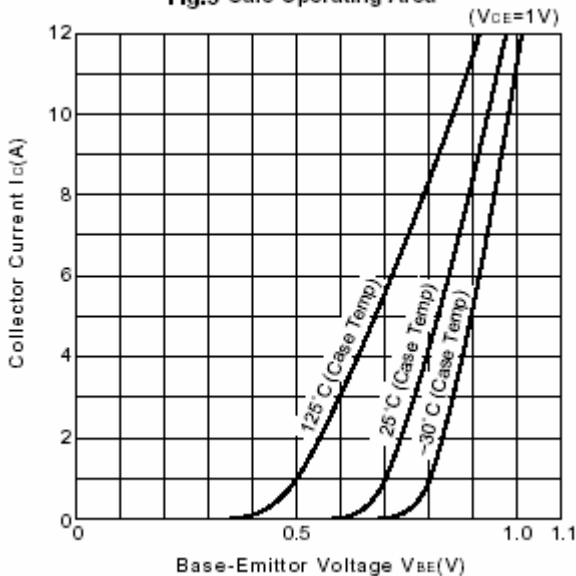


Fig.7  $I_C-V_{BE}$

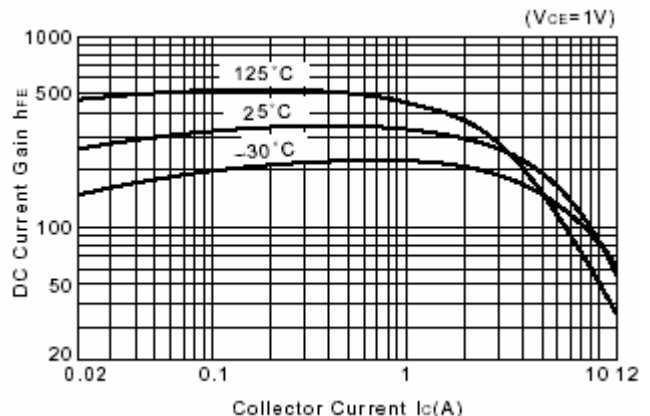


Fig.8 DC current Gain