

Silicon NPN Power Transistors

2SC4381 2SC4382

**DESCRIPTION**

- With TO-220F package
- Complement to type 2SA1667/1668

**APPLICATIONS**

- For TV vertical output ,audio output driver and general purpose applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

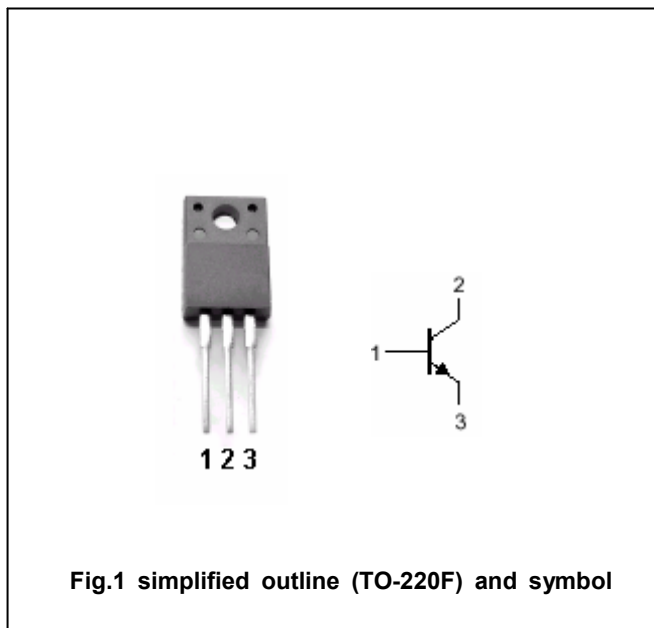


Fig.1 simplified outline (TO-220F) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	2SC4381	150	V
		2SC4382	200	
V <sub>CEO</sub>	Collector-emitter voltage	2SC4381	150	V
		2SC4382	200	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current		2	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector dissipation	T <sub>C</sub> =25°C	25	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	2SC4381	I <sub>C</sub> =25mA ; I <sub>B</sub> =0	150			V
		2SC4382		200			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.7A; I <sub>B</sub> =70mA			1.0	V	
I <sub>CBO</sub>	Collector cut-off current	2SC4381	V <sub>CB</sub> =150V; I <sub>E</sub> =0		10	μA	
		2SC4382	V <sub>CB</sub> =200V; I <sub>E</sub> =0		10	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> =0.7A ; V <sub>CE</sub> =10V	60				
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.2A ; V <sub>CE</sub> =12V		15		MHz	
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz		35		pF	

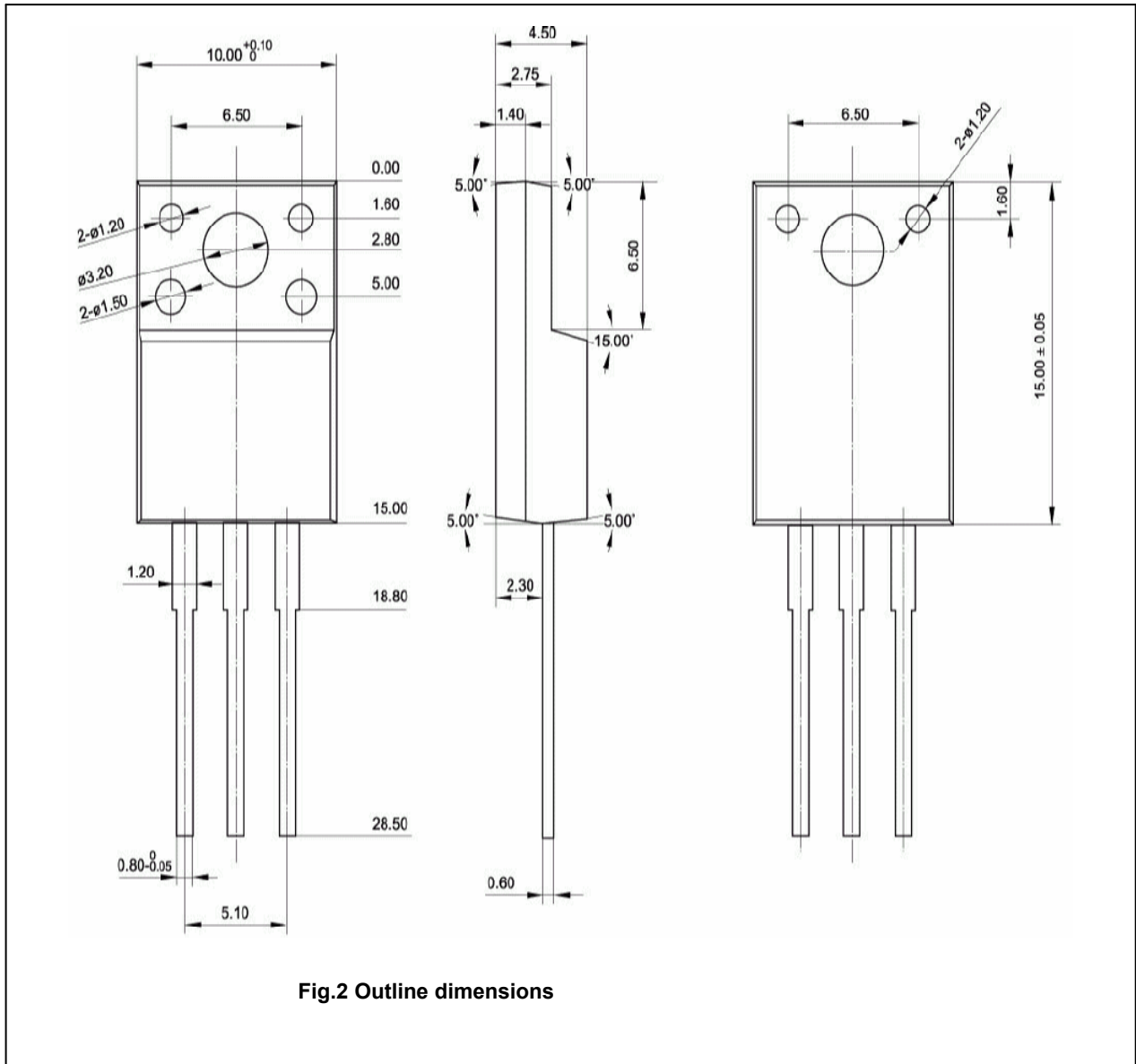
## Switching time

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1A ; I <sub>B1</sub> =-I <sub>B2</sub> =0.1A V <sub>CC</sub> =20V , R <sub>L</sub> =20Ω		1.0		μs
t <sub>s</sub>	Storage time			3.0		μs
t <sub>f</sub>	Fall time			1.5		μs

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PACKAGE OUTLINE



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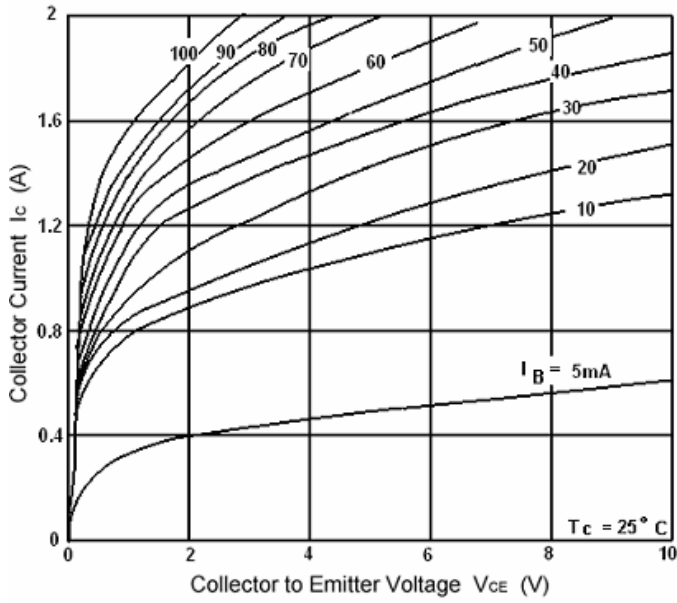


Fig.3 Static Characteristic

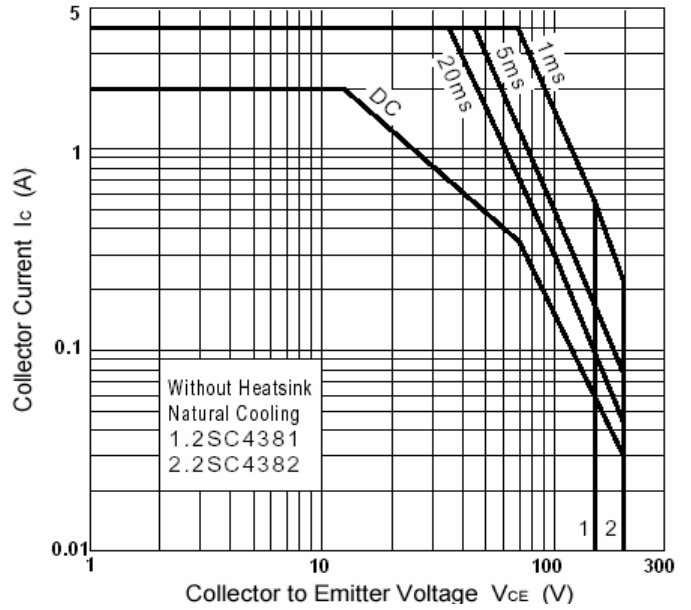


Fig.4 Safe Operating Area

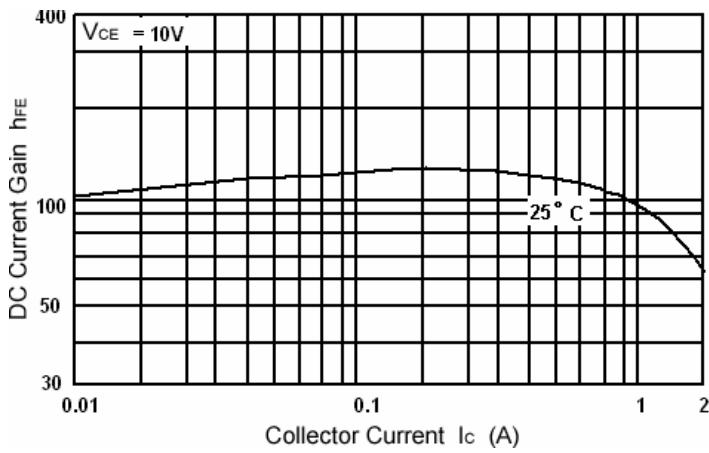


Fig.5 DC current Gain