

Silicon NPN Power Transistors

2SC5417

DESCRIPTION

- With TO-220F package
- High breakdown voltage
- High reliability

APPLICATIONS

- For inverter lighting applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

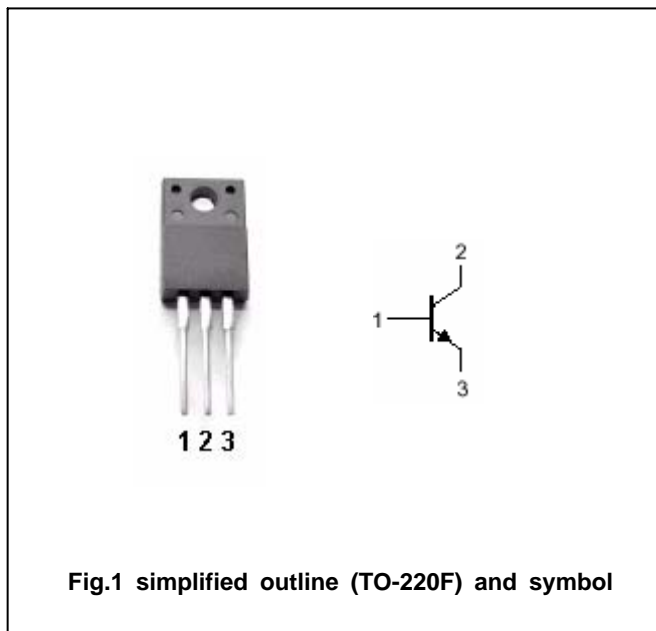


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	1200	V
$V_{CEO}$	Collector-emitter voltage	Open base	600	V
$V_{EBO}$	Emitter-base voltage	Open collector	9	V
$I_C$	Collector current		3	A
$I_{CM}$	Collector current-peak		6	A
$P_C$	Collector power dissipation	$T_a=25$	2	W
		$T_C=25$	25	
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

## Silicon NPN Power Transistors

## 2SC5417

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.1A; I <sub>B</sub> =0	600			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3 A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3 A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =600V; I <sub>E</sub> =0			10	μA
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1200V; R <sub>BE</sub> =0			1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =9V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	30		50	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =1.0A; V <sub>CE</sub> =5V	10			
Switching times						
t <sub>s</sub>	Storage time	I <sub>C</sub> =1.5A; I <sub>B1</sub> =0.3A; I <sub>B2</sub> =-0.6A			2.5	μs
t <sub>f</sub>	Fall time				0.15	μs

Silicon NPN Power Transistors

2SC5417

PACKAGE OUTLINE

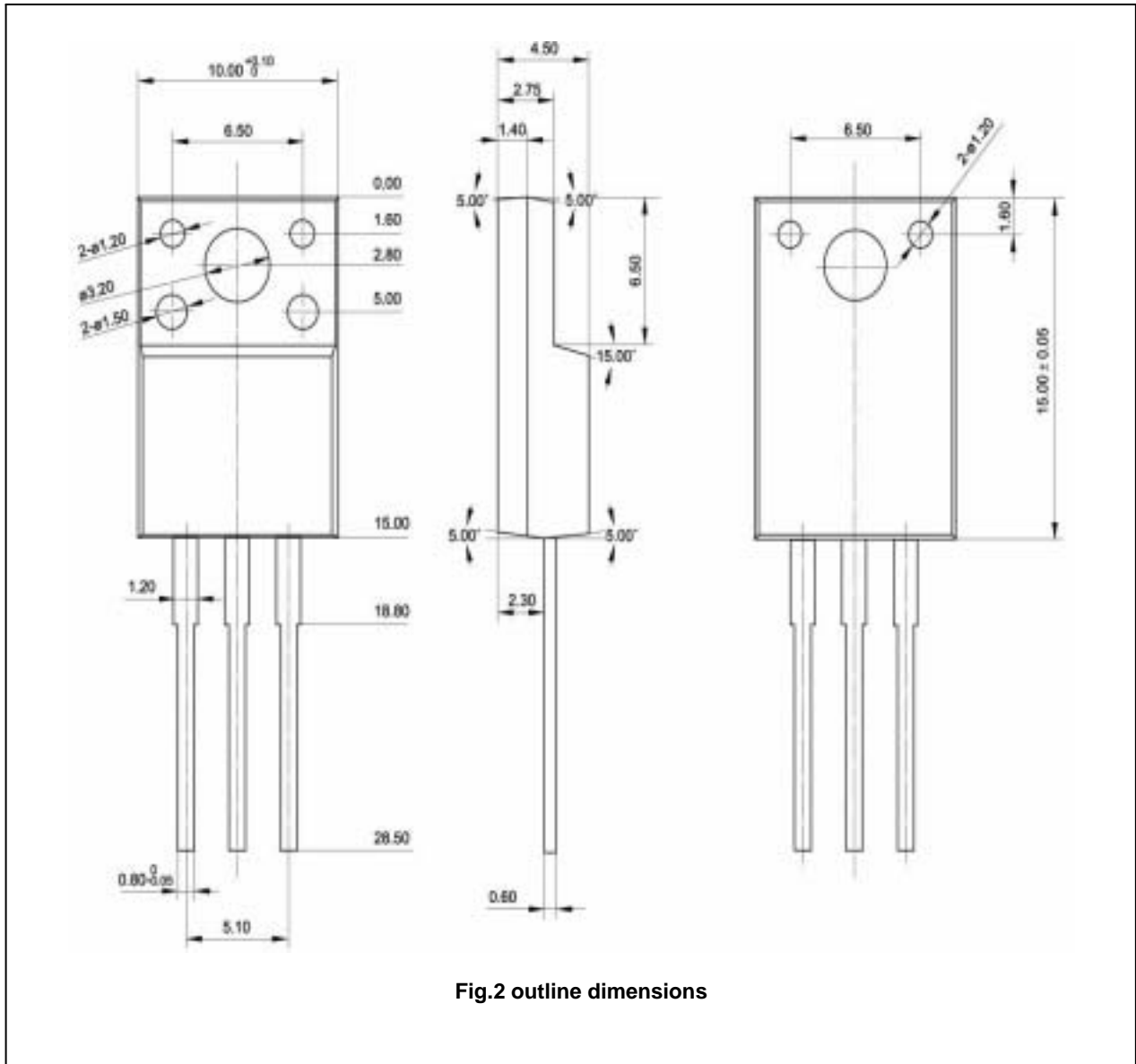


Fig.2 outline dimensions

Silicon NPN Power Transistors

2SC5417

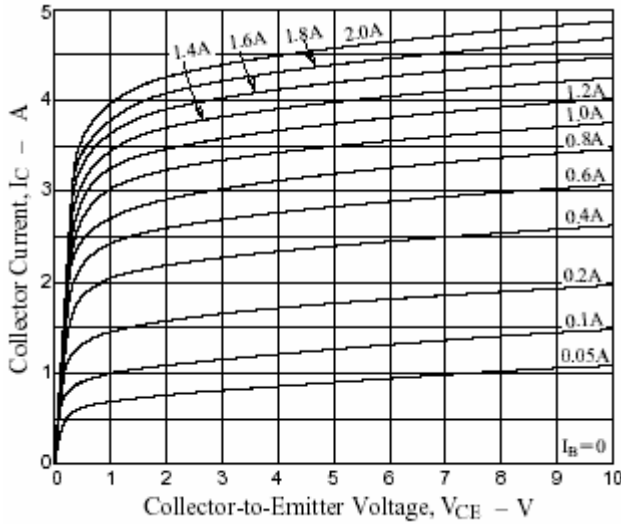


Fig.3 Static Characteristic

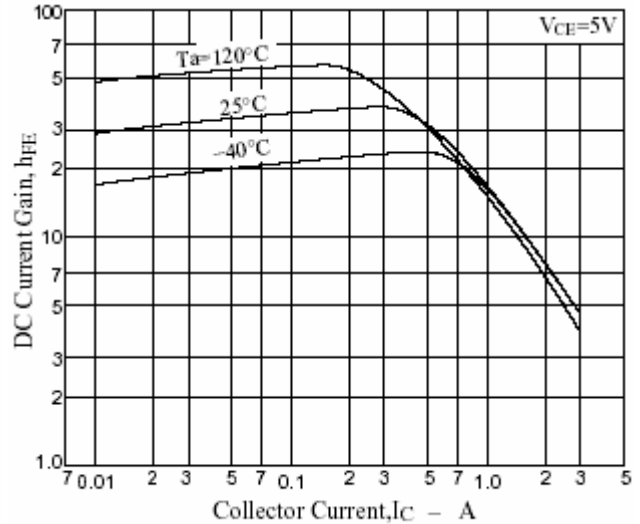


Fig.4 DC current Gain

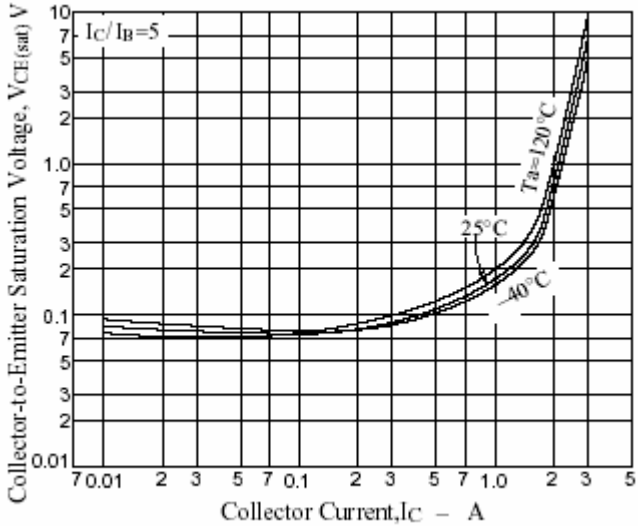


Fig.5 Collector-Emitter Saturation Voltage

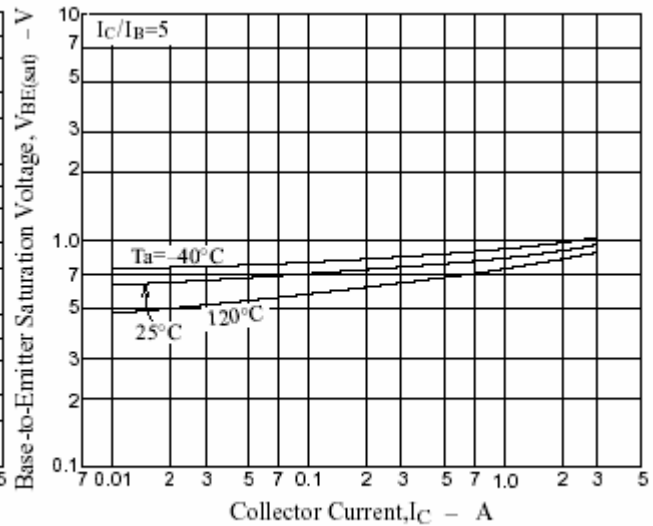


Fig.6 Base-Emitter Saturation Voltage

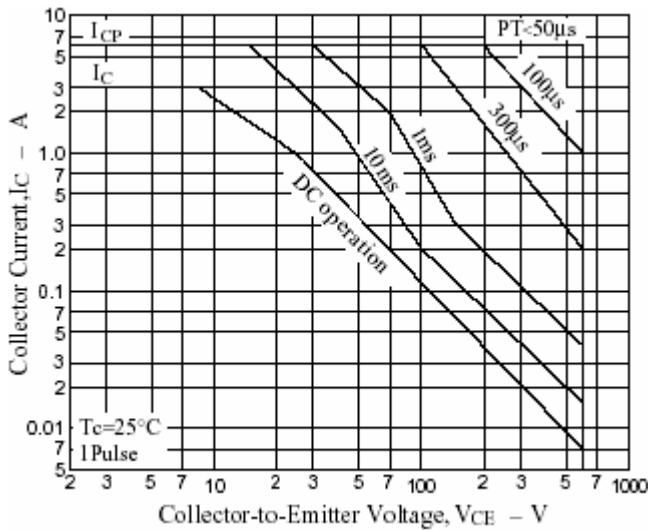


Fig.7 Safe Operating Area