

Silicon NPN Power Transistors

2SC4418

**DESCRIPTION**

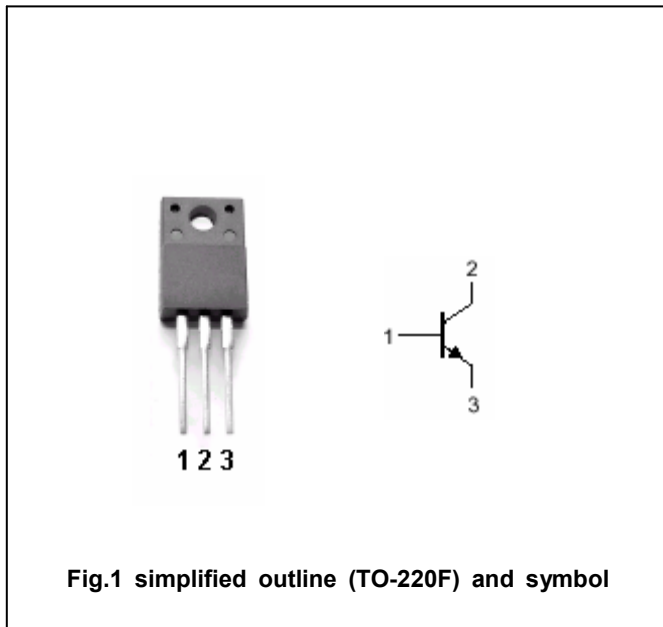
- With TO-220F package
- High voltage
- High speed switching

**APPLICATIONS**

- For switching regulator and general purpose applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	500	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	400	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	10	V
I <sub>C</sub>	Collector current		5	A
I <sub>CM</sub>	Collector current-peak		10	A
I <sub>B</sub>	Base current		2	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	30	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

## Silicon NPN Power Transistors

## 2SC4418

## CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=25mA ; I_B=0$	400			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=1.5A ; I_B=0.3A$			0.5	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=1.5A ; I_B=0.3A$			1.3	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=500V ; I_E=0$			100	$\mu A$
$I_{EBO}$	Emitter cut-off current	$V_{EB}=10V ; I_C=0$			100	$\mu A$
$h_{FE}$	DC current gain	$I_C=1.5A ; V_{CE}=4V$	10		30	
$C_{OB}$	Output capacitance	$I_E=0 ; V_{CB}=10V ; f=1MHz$		30		pF
$f_T$	Transition frequency	$I_E=-0.3A ; V_{CE}=12V$		20		MHz

## Switching times

$t_{on}$	Turn-on time	$I_C=1.5A ; I_{B1}=0.15A$ $I_{B2}=-0.3A$ $V_{CC}=200V , R_L=133\Omega$			1.0	$\mu s$
$t_s$	Storage time				2.5	$\mu s$
$t_f$	Fall time				0.5	$\mu s$

Silicon NPN Power Transistors

2SC4418

PACKAGE OUTLINE

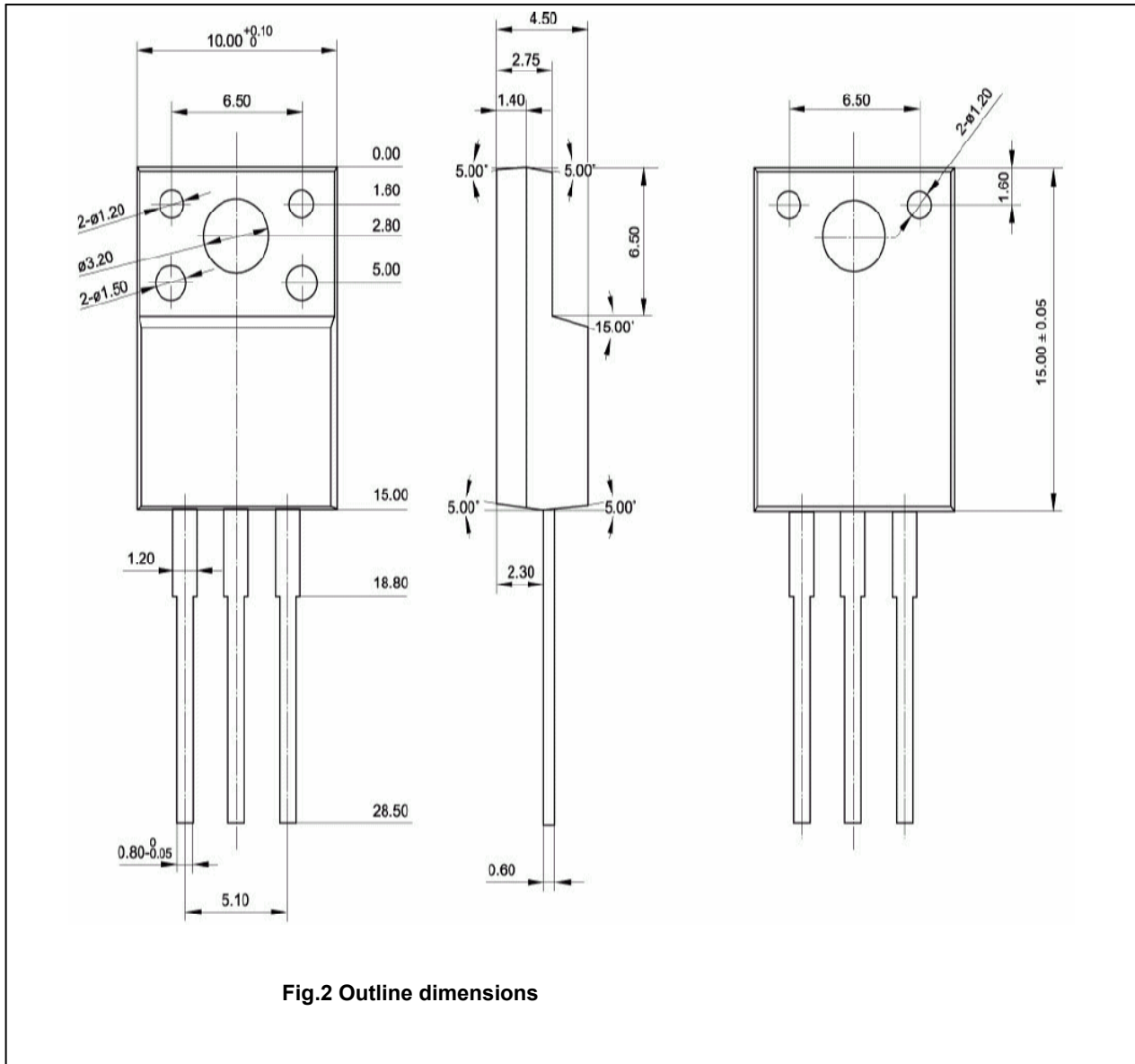


Fig.2 Outline dimensions

Silicon NPN Power Transistors

2SC4418

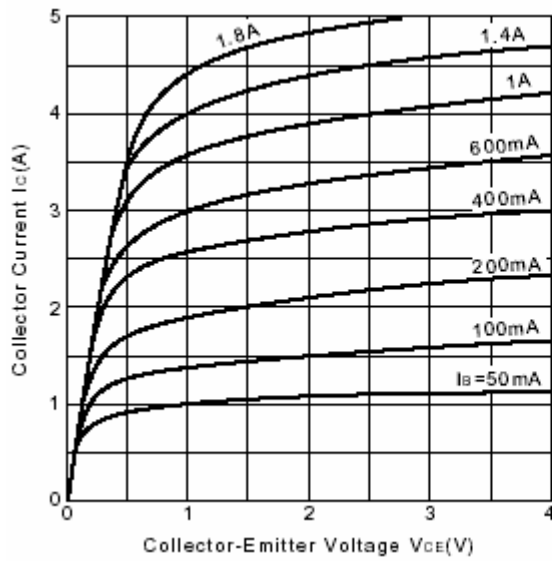


Fig.3 Static Characteristic

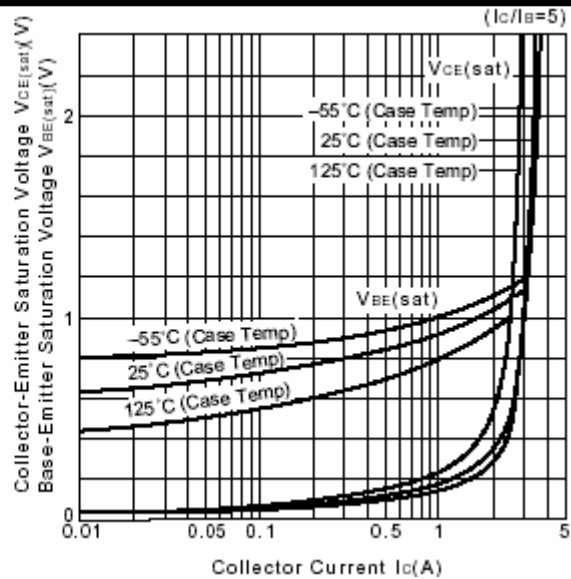


Fig.4 Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

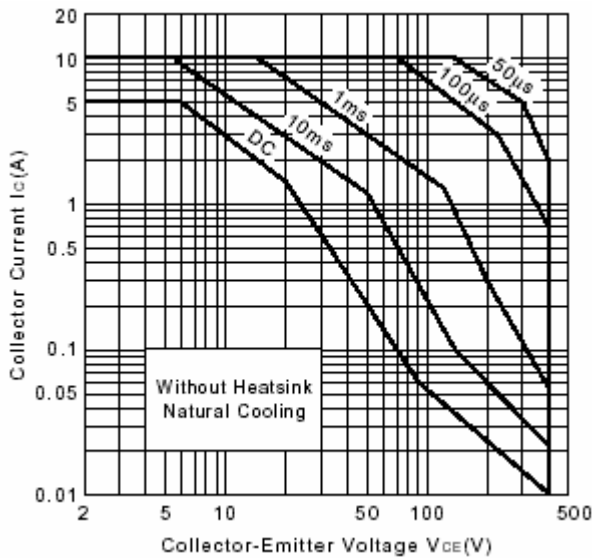


Fig.5 Safe Operating Area

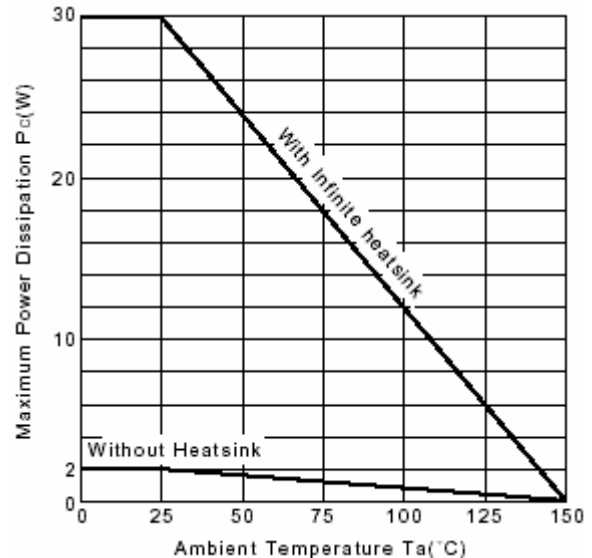


Fig.6 Pc-Ta Derating

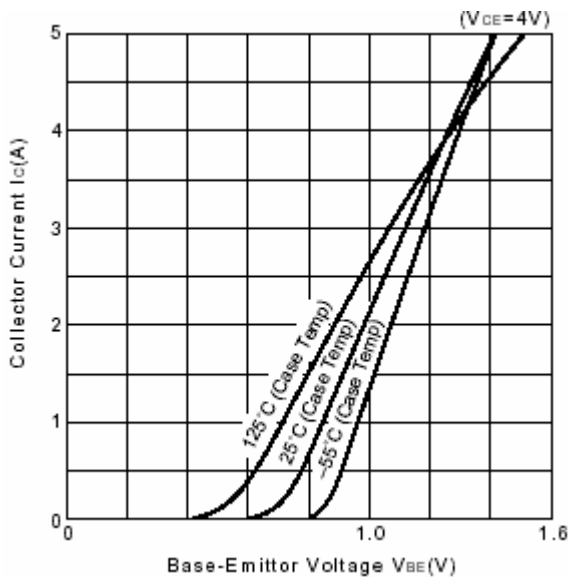


Fig.7  $I_C$ - $V_{BE}$

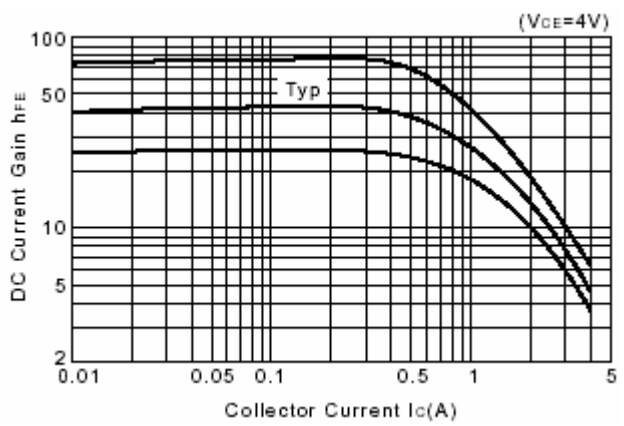


Fig.8 DC current Gain