

**Silicon PNP Power Transistors**

**2SA1471**

**DESCRIPTION**

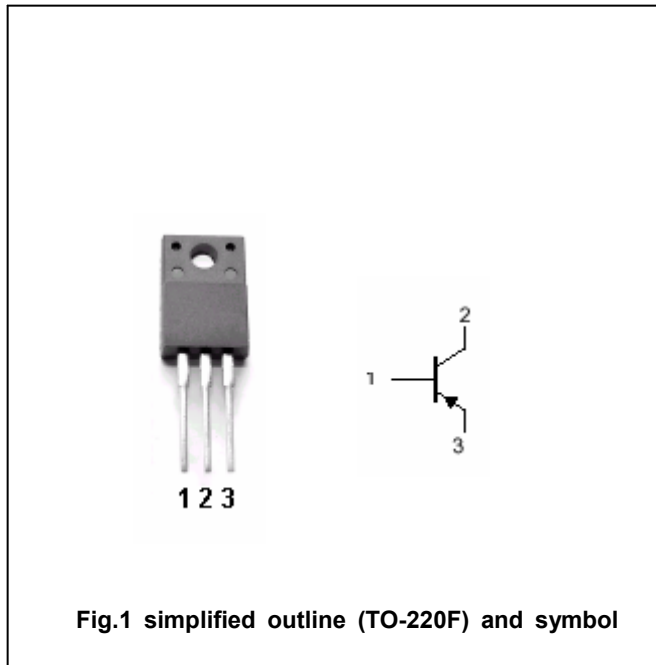
- With TO-220Fpackage
- Low saturation voltage.
- Complement to type 2SC3748
- Fast switching speed.

**APPLICATIONS**

- Car-use inductance drivers, lamp drivers.
- Inverters drivers, converters
- Power amplifications
- Switching regulators,drivers

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-80	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-60	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current		-10	A
I <sub>CM</sub>	Collector current-peak		-12	A
P <sub>C</sub>	Collector power dissipation	T <sub>a</sub> =25°C	2	W
		T <sub>C</sub> =25°C	30	
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## CHARACTERISTICS

 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=-1\text{mA}; I_E=0$	-80			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-1\text{mA}; R_{BE}=\infty$	-60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=-1\text{mA}; I_C=0$	-5			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=-5\text{A}; I_B=-0.25\text{A}$			-0.4	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=-40\text{V}; I_E=0$			-100	$\mu\text{A}$
$I_{EBO}$	Emitter cut-off current	$V_{EB}=-4\text{V}; I_C=0$			-100	$\mu\text{A}$
$h_{FE}$	DC current gain	$I_C=-1\text{A}; V_{CE}=-2\text{V}$	70		280	
$f_T$	Transition frequency	$I_C=-1\text{A}; V_{CE}=-5\text{V}$		100		MHz

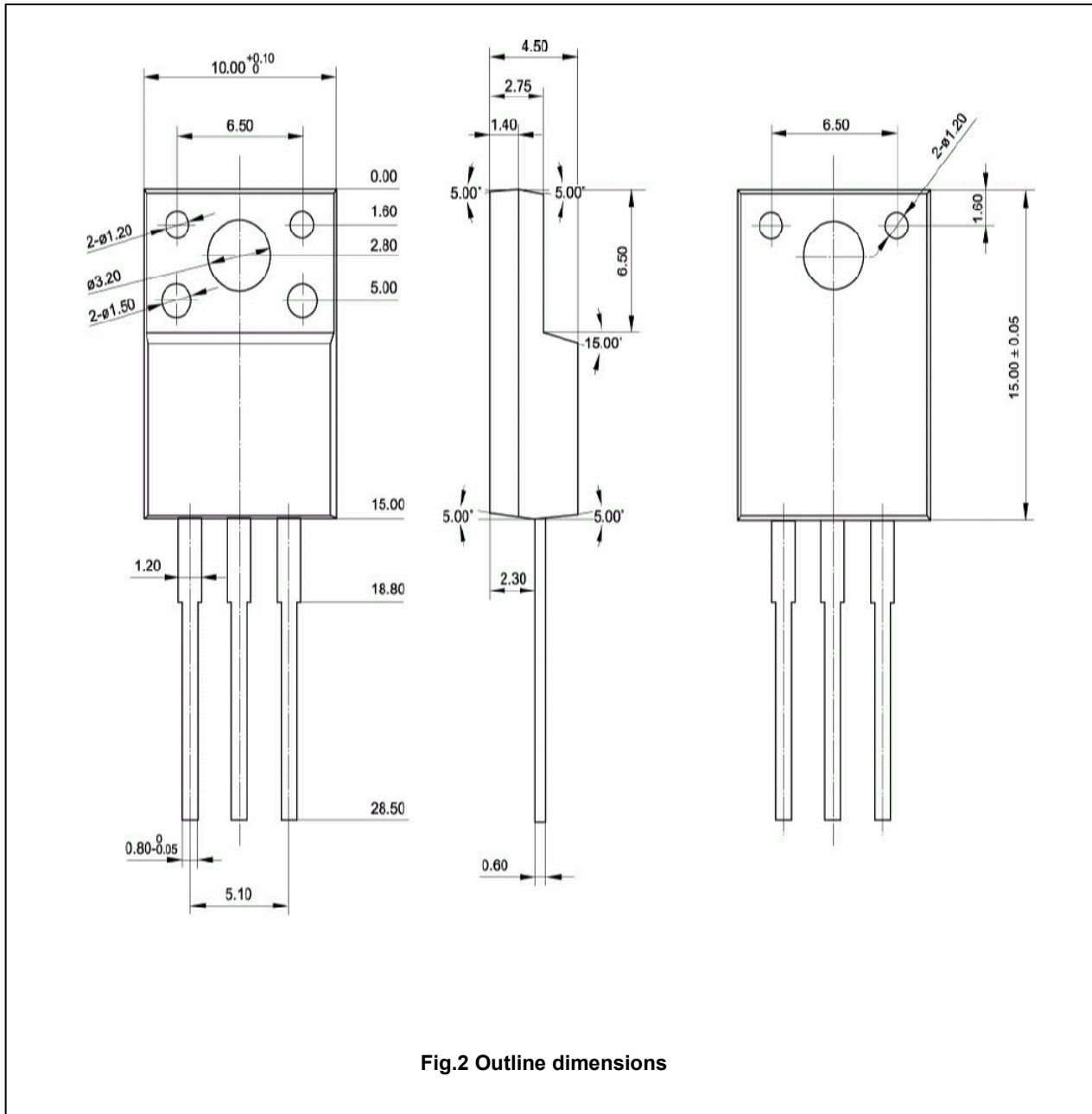
## Switching times

$t_{on}$	Turn-on time	$V_{CC}=20\text{V}; I_C=5\text{A}$ $I_{B1}=-I_{B2}=-0.25\text{A}$ $R_L=4\Omega$		0.1		$\mu\text{s}$
$t_{stg}$	Storage time			0.5		$\mu\text{s}$
$t_f$	Fall time			0.1		$\mu\text{s}$

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PACKAGE OUTLINE



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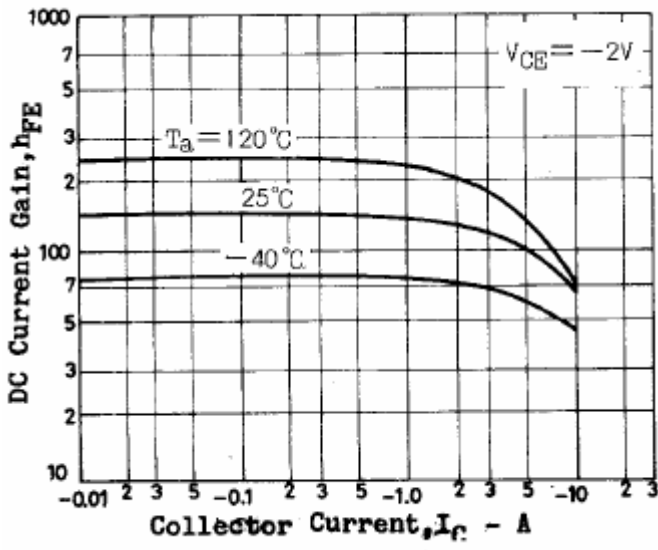


Fig.3 DC current Gain

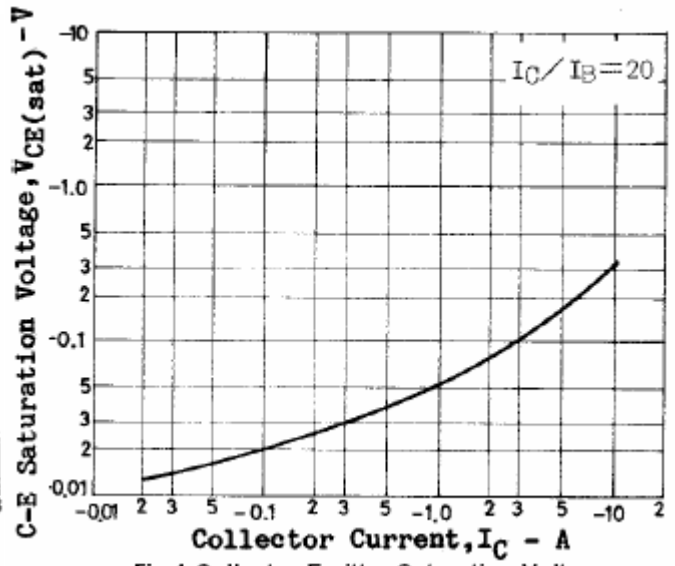


Fig.4 Collector-Emitter Saturation Voltage

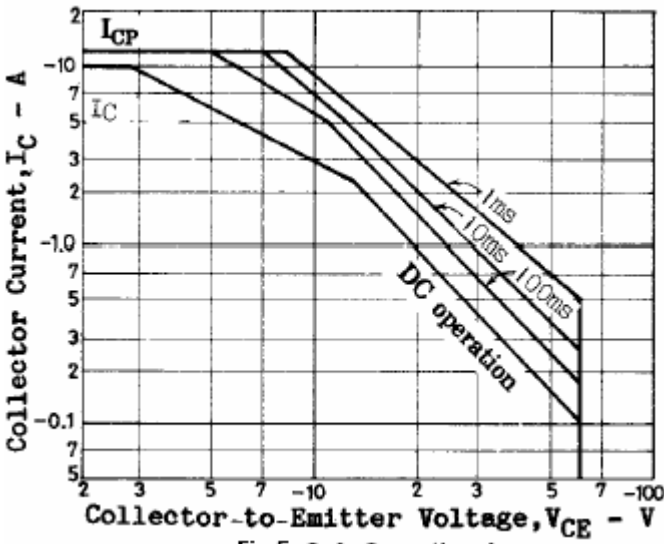


Fig.5 Safe Operating Area