

**Silicon PNP Power Transistors**

**2SB1642**

**DESCRIPTION**

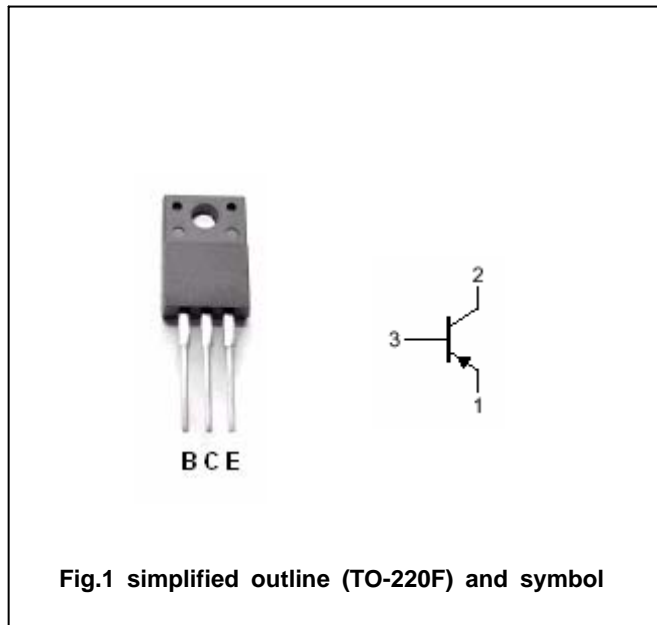
- With TO-220F package
- Low collector saturation voltage:  
 $V_{CE(SAT)} = -1.5V(\text{Max})$  at  $I_C = -2.5A, I_B = -0.25A$
- Collector power dissipation:  
 $P_C = 25W(T_C = 25^\circ C)$

**APPLICATIONS**

- Audio frequency power amplifier applications

**PINNING**

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	-60	V
$V_{CEO}$	Collector-emitter voltage	Open base	-60	V
$V_{EBO}$	Emitter-base voltage	Open collector	-7	V
$I_C$	Collector current		-4	A
$I_B$	Base current		-1	A
$P_C$	Collector power dissipation	$T_a = 25$	2.0	W
		$T_C = 25$	25	
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-55~150	

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-10mA ; I <sub>B</sub> =0	-60			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-2.5A; I <sub>B</sub> =-0.25A		-0.7	-1.5	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V		-0.75	-1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-60V; I <sub>E</sub> =0			-10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-7V; I <sub>C</sub> =0			-10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-5V	100		320	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-5V	20			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-5V		9.0		MHz
C <sub>OB</sub>	Collector output capacitance	I <sub>E</sub> =0; f=1MHz; V <sub>CB</sub> =-10V		50		pF

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PACKAGE OUTLINE

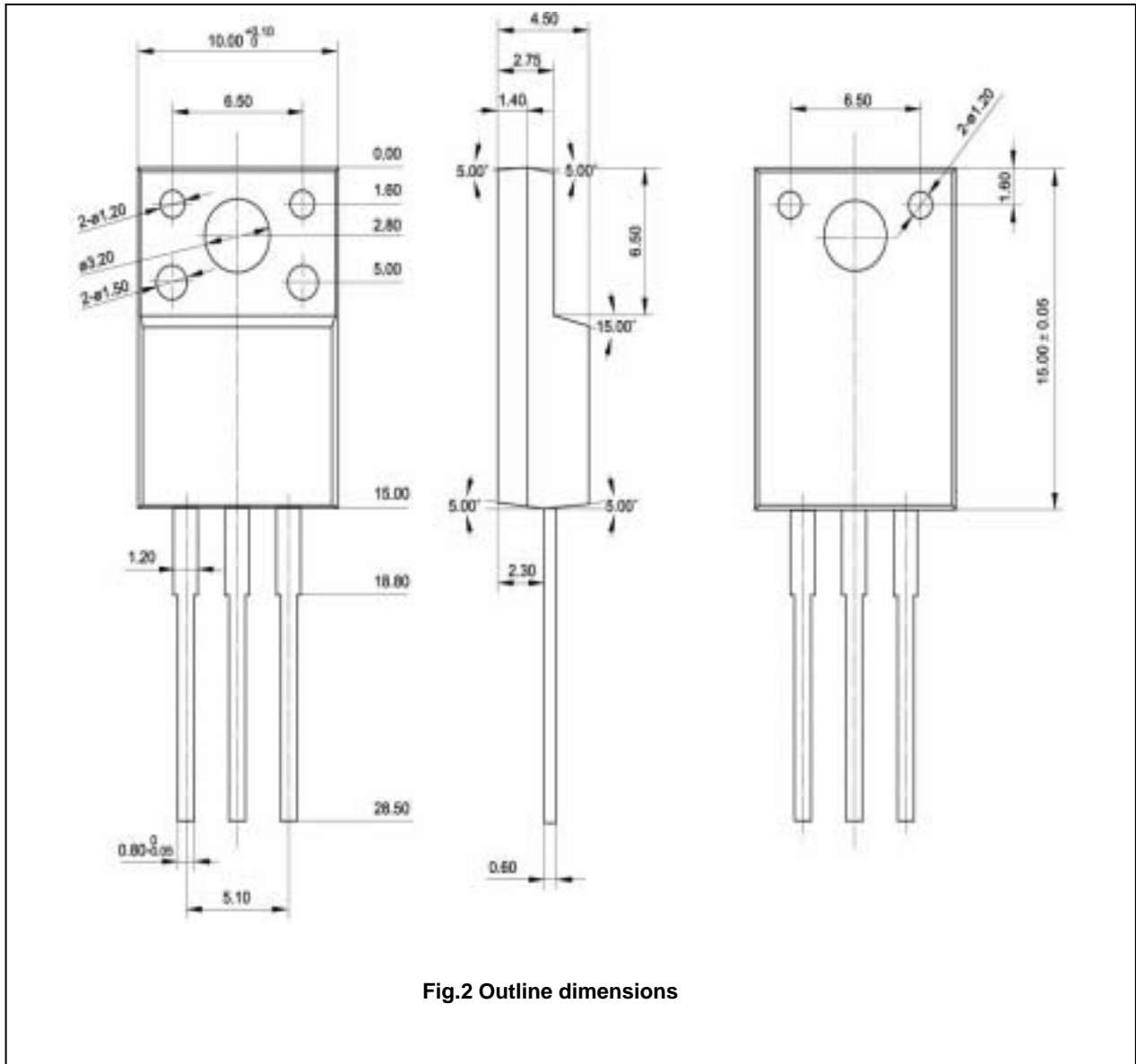


Fig.2 Outline dimensions

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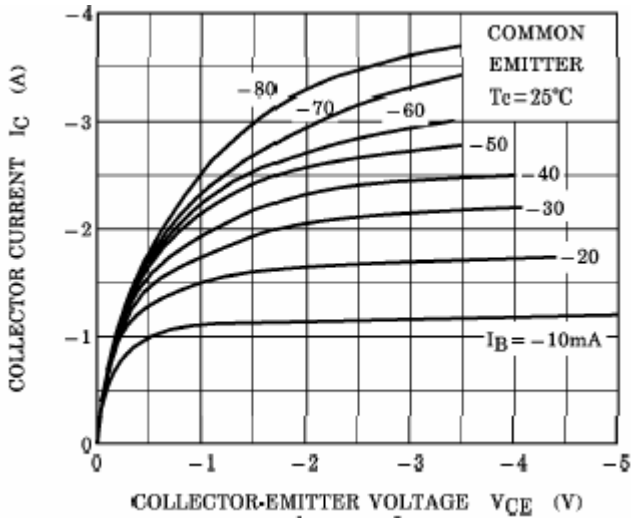


Fig.3 Static Characteristic

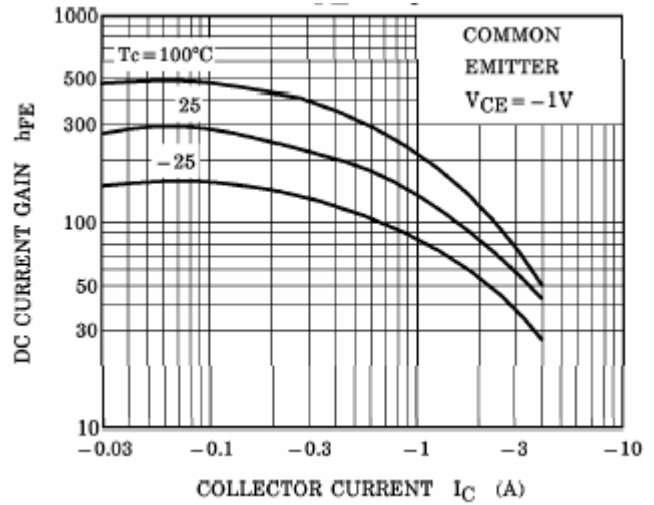


Fig.4 DC current Gain

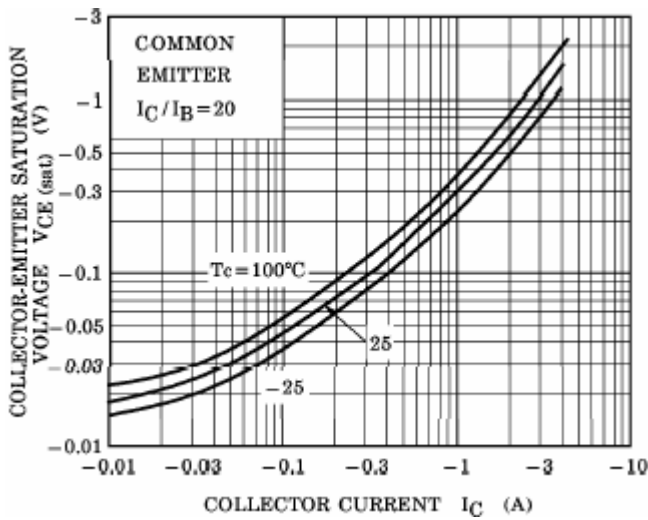


Fig.5 Collector-Emitter Saturation Voltage

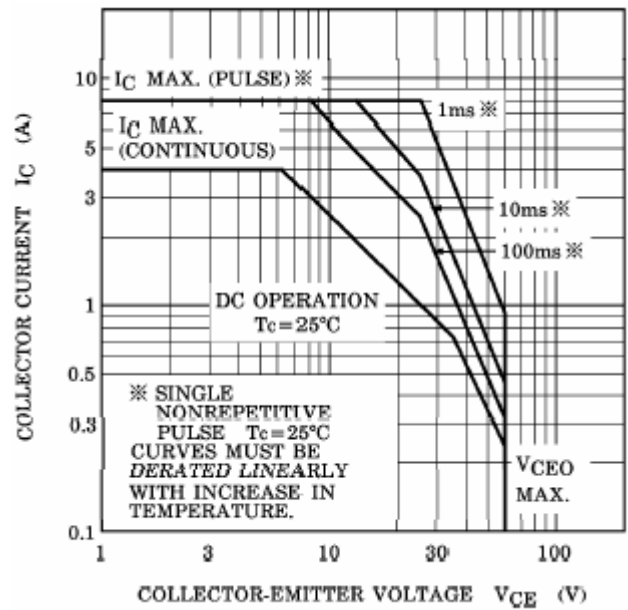


Fig.6 Safe Operating Area