

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:
 $P_C = 25W(T_C = 25^\circ\text{C})$

APPLICATIONS

- Audio frequency power amplifier applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

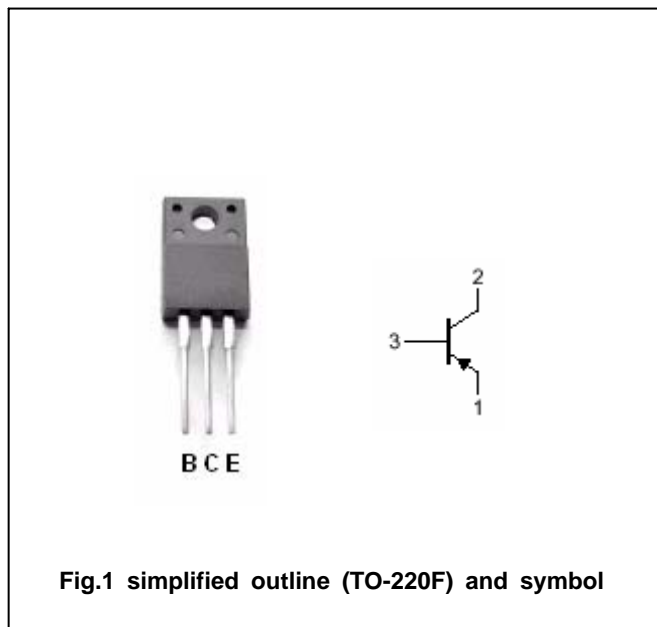


Fig.1 simplified outline (TO-220F) and symbol

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_j=25 unless otherwise specified

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

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PACKAGE OUTLINE

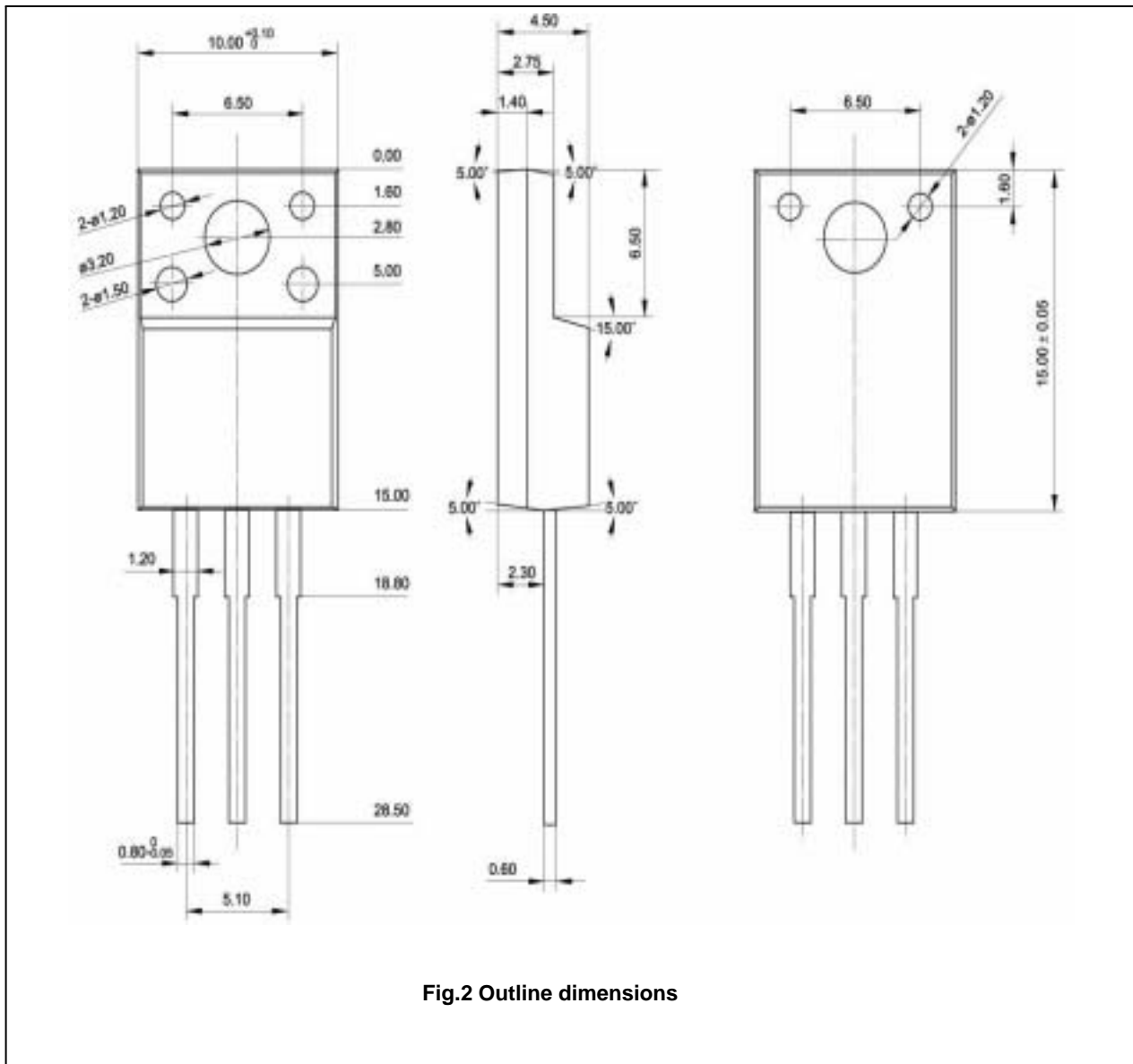


Fig.2 Outline dimensions

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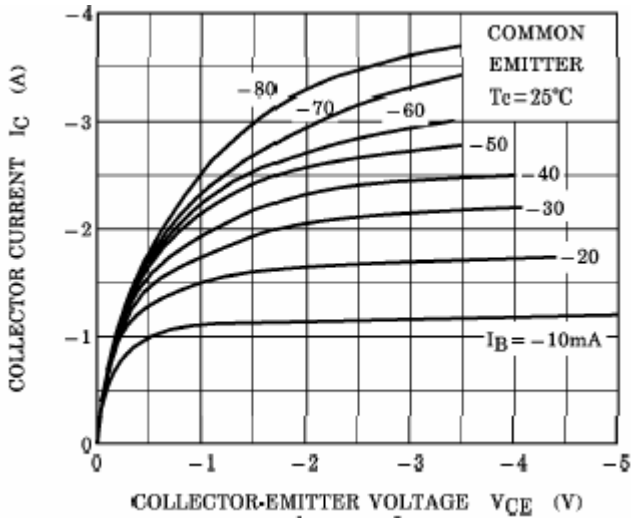


Fig.3 Static Characteristic

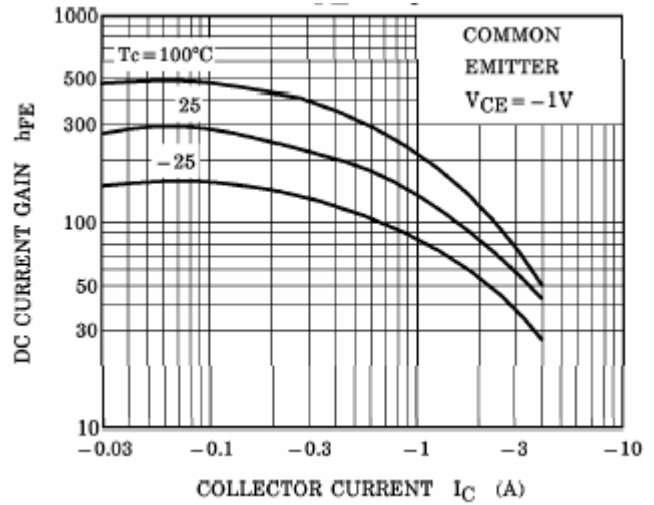


Fig.4 DC current Gain

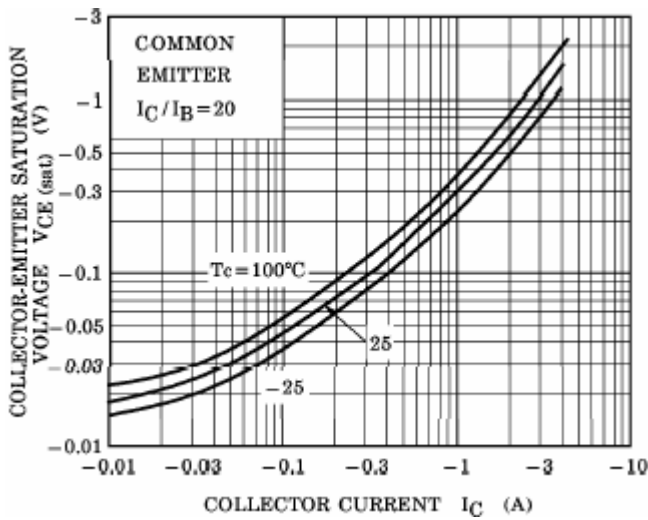


Fig.5 Collector-Emitter Saturation Voltage

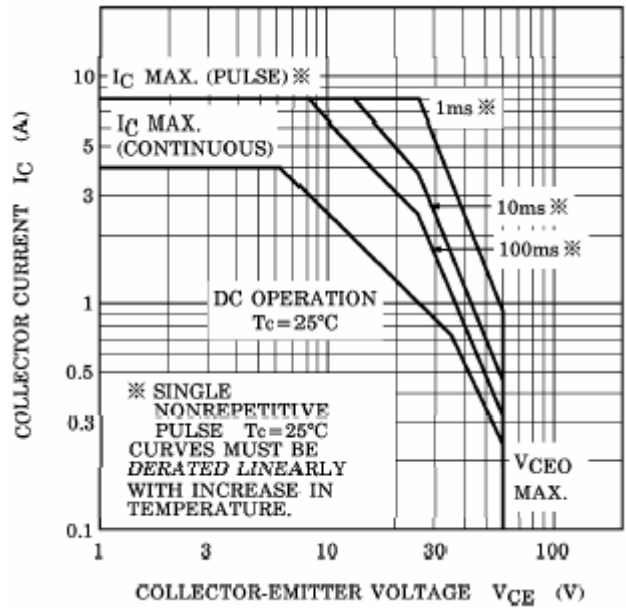


Fig.6 Safe Operating Area