

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

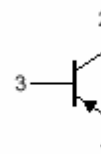


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

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	$T_a = 25^\circ\text{C}$	2.0	W
		$T_C = 25^\circ\text{C}$	25	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-10\text{mA}$; $I_B=0$	-60			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=-2.5\text{A}$; $I_B=-0.25\text{A}$		-0.7	-1.5	V
V_{BE}	Base-emitter voltage	$I_C=-0.5\text{A}$; $V_{CE}=-5\text{V}$		-0.75	-1.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=-60\text{V}$; $I_E=0$			-10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=-7\text{V}$; $I_C=0$			-10	μA
h_{FE-1}	DC current gain	$I_C=-0.5\text{A}$; $V_{CE}=-5\text{V}$	100		320	
h_{FE-2}	DC current gain	$I_C=-3\text{A}$; $V_{CE}=-5\text{V}$	20			
f_T	Transition frequency	$I_C=-0.5\text{A}$; $V_{CE}=-5\text{V}$		9.0		MHz
C_{OB}	Collector output capacitance	$I_E=0$; $f=1\text{MHz}$; $V_{CB}=-10\text{V}$		50		pF

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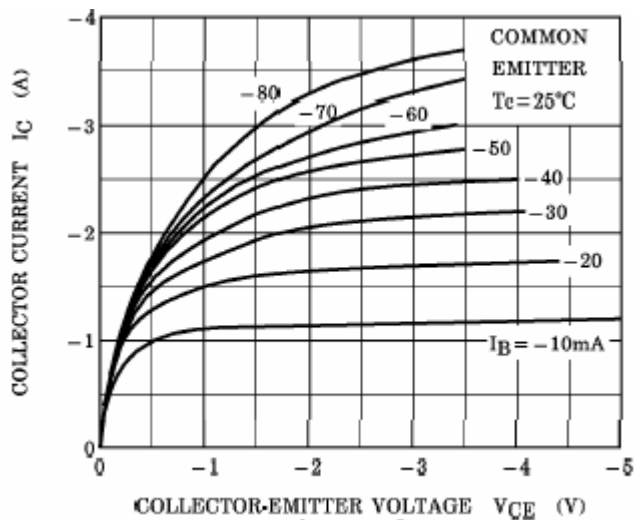


Fig.3 Static Characteristic

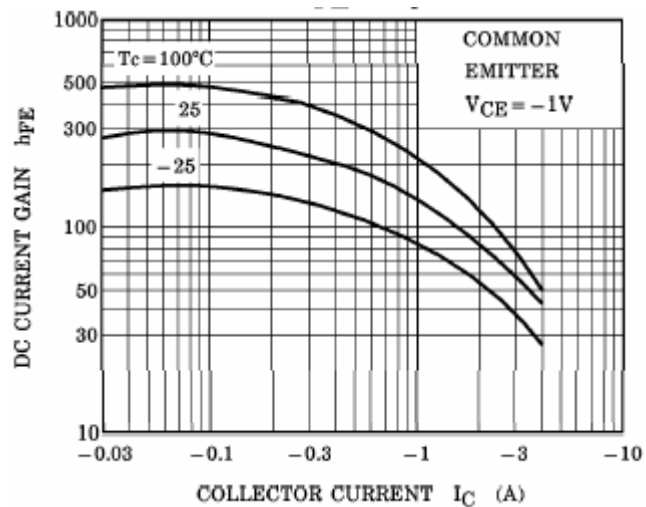


Fig.4 DC current Gain

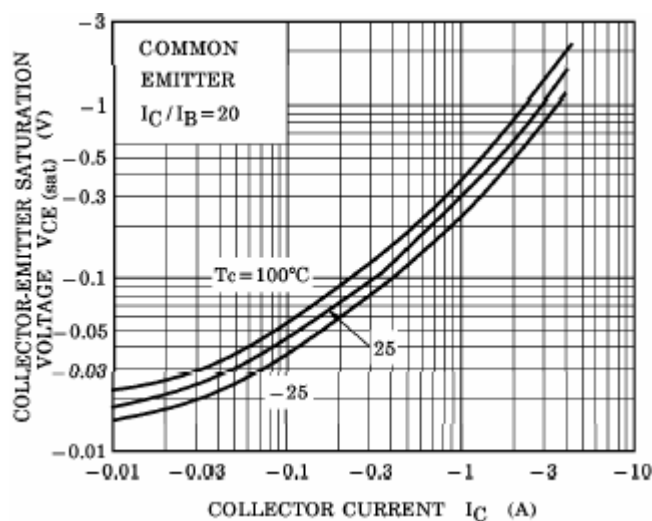


Fig.5 Collector-Emitter Saturation Voltage

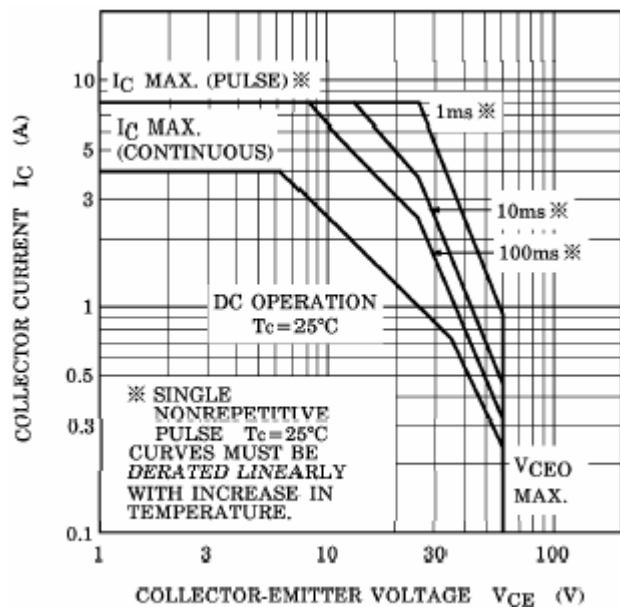


Fig.6 Safe Operating Area