

Silicon PNP Power Transistors

2SB1136

DESCRIPTION

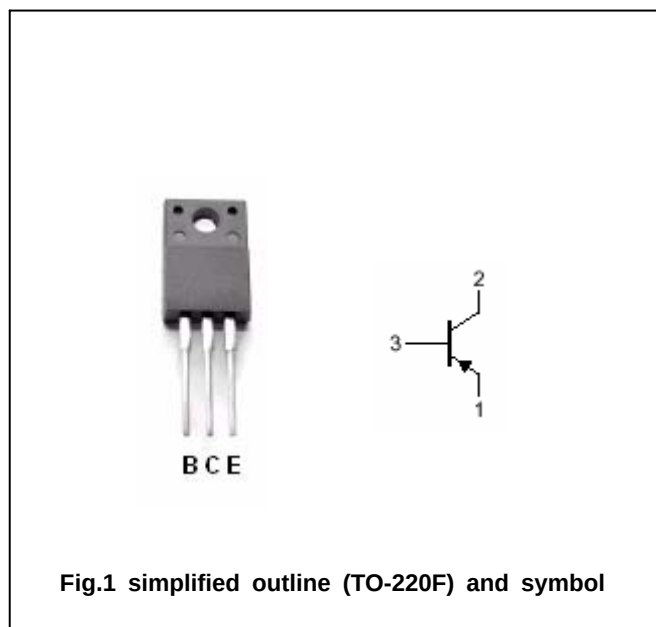
- With TO-220F package
- Complement to type 2SD1669
- Low collector saturation voltage
- Wide ASO

APPLICATIONS

- Relay drivers
- High speed inverters,converters
- General high current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-50	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current		-12	A
I_{CM}	Collector current-peak		-15	A
P_C	Collector dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
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°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =-1mA ; R _{BE} =∞	-50			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =-1mA ; I _E =0	-60			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =-1mA ; I _C =0	-6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =-6A ; I _B =-0.6A			-0.4	V
I _{CBO}	Collector cut-off current	V _{CB} =-40V ; I _E =0			-100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =-4V ; I _C =0			-100	μA
h _{FE-1}	DC current gain	I _C =-1A ; V _{CE} =-2V	70		280	
h _{FE-2}	DC current gain	I _C =-5A ; V _{CE} =-2V	30			
f _T	Transition frequency	I _C =-1A ; V _{CE} =-5V		10		MHz

Switching times

t _{on}	Turn-on time	I _C =-2.0A I _{B1} =-I _{B2} =-0.2A		0.2		μs
t _s	Storage time			0.4		μs
t _f	Fall time			0.1		μs

◆ h_{FE-1} Classifications

Q	R	S
70-140	100-200	140-280

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PACKAGE OUTLINE

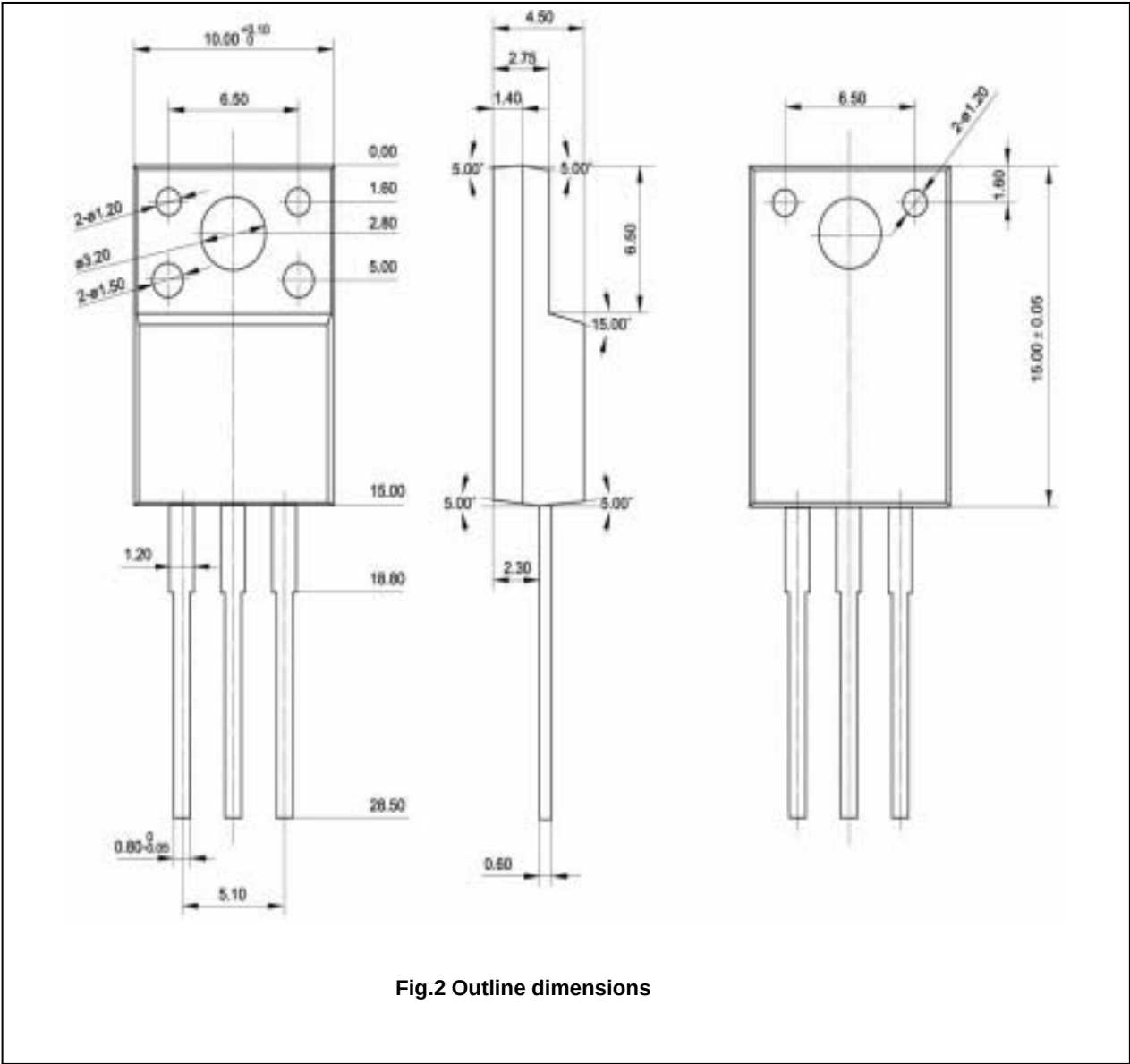


Fig.2 Outline dimensions

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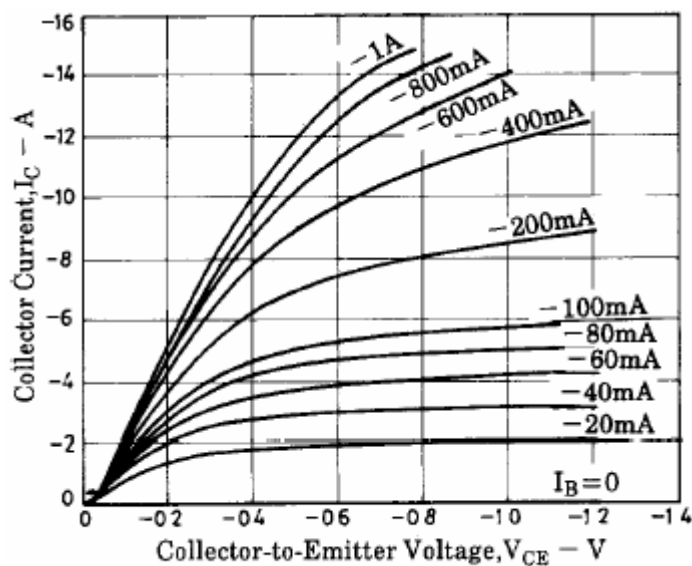


Fig.3 Static Characteristic

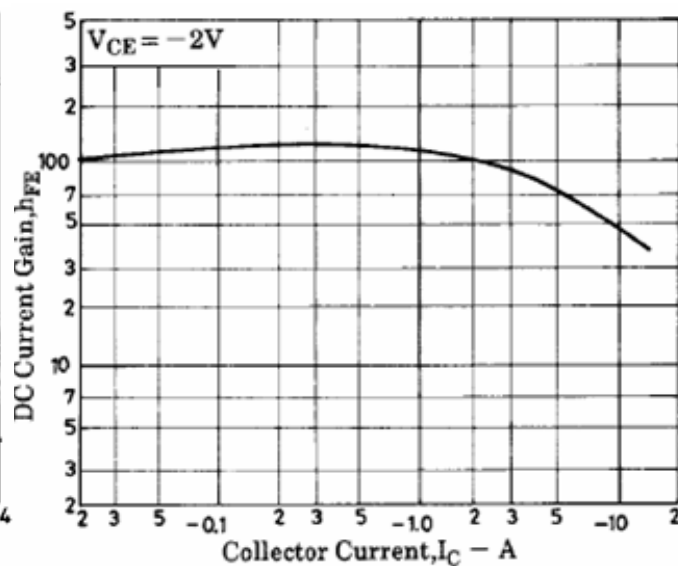


Fig.4 DC current Gain

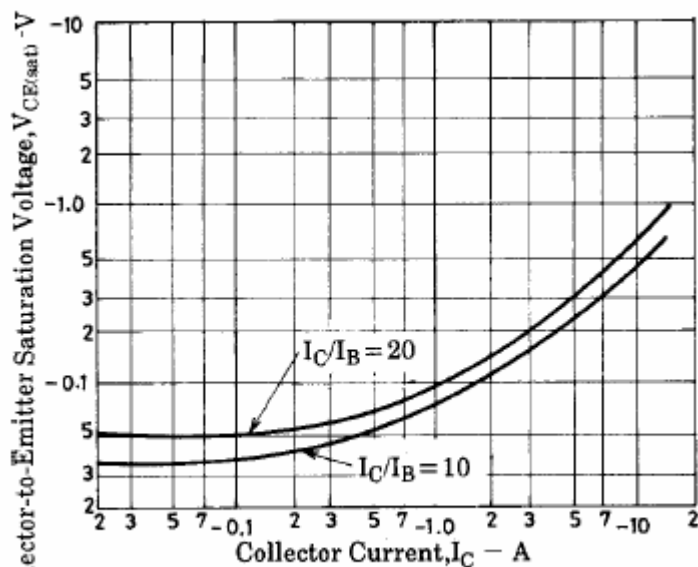


Fig.5 Collector-Emitter Saturation Voltage

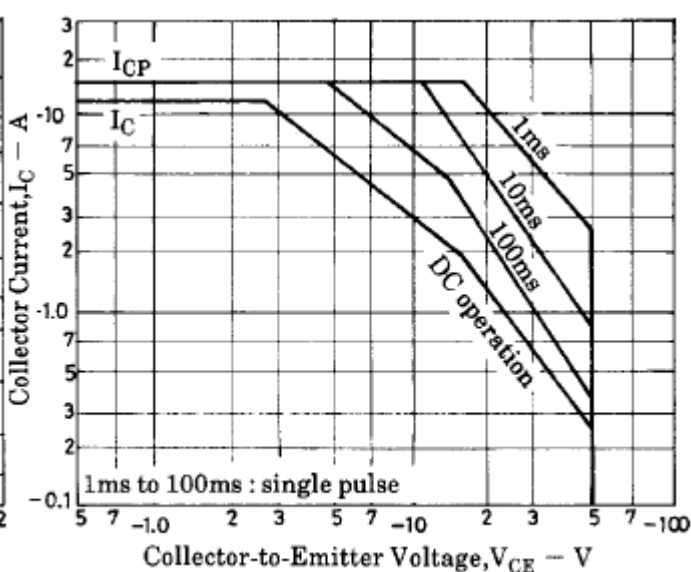


Fig.6 Safe Operating Area