

Silicon NPN Power Transistors

2SD1913

DESCRIPTION

- With TO-220F package
- Complement to type 2SB1274
- High reliability.
- High breakdown voltage
- Low saturation voltage.
- Wide area of safe operation

APPLICATIONS

- 60V/3A low-frequency power amplifier
- General power amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



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	6	V
$I_C$	Collector current		3	A
$I_{CM}$	Collector current-peak		8	A
$P_C$	Collector dissipation	$T_C=25^\circ C$	20	W
			2	
$T_j$	Junction temperature		150	°C
$T_{stg}$	Storage temperature		-55~150	°C

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =1mA; I <sub>E</sub> =0	60			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =5mA; R <sub>BE</sub> =∞	60			V
V <sub>(BR)EBO</sub>	Base-emitter breakdown voltage	I <sub>E</sub> =1mA; I <sub>C</sub> =0	6			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A; I <sub>B</sub> =0.2A		0.4	1.0	V
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V		0.8	1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =40V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =4V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V	70		280	
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		100		MHz
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		40		pF

◆ h<sub>FE-1</sub> classifications

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

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PACKAGE OUTLINE

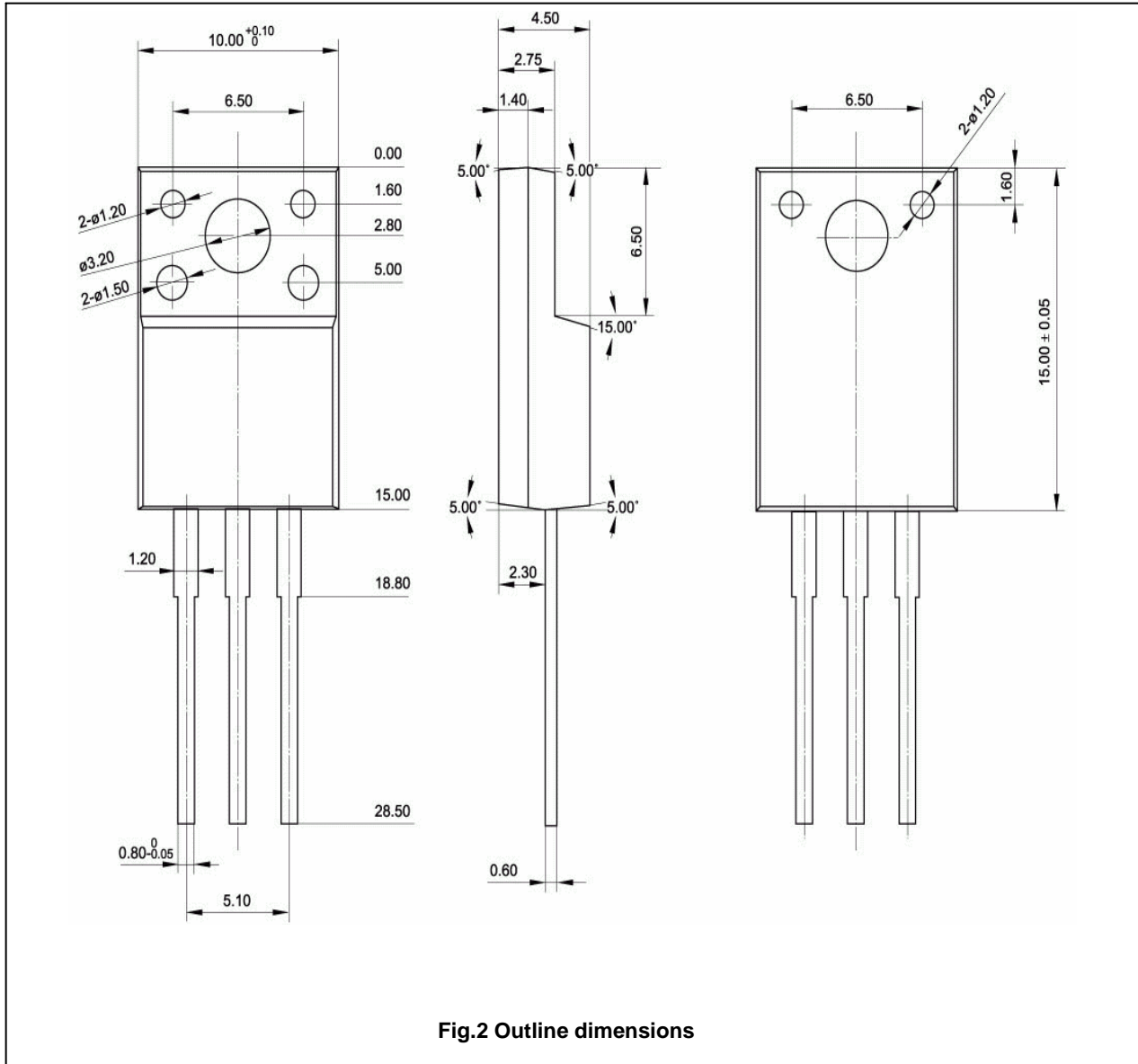


Fig.2 Outline dimensions

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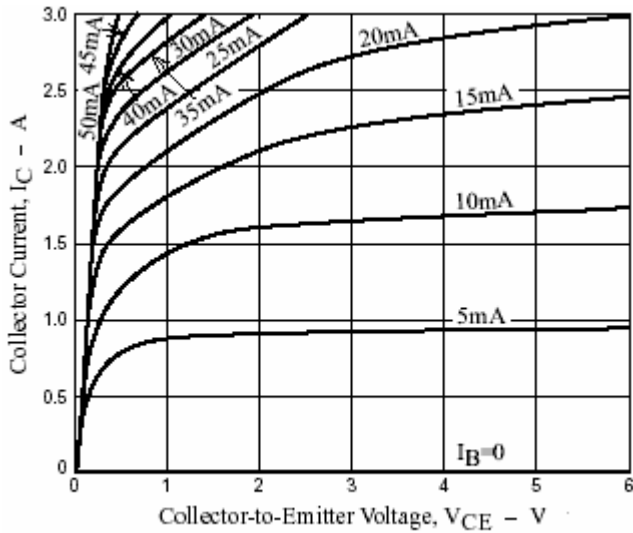


Fig.3 Static Characteristic

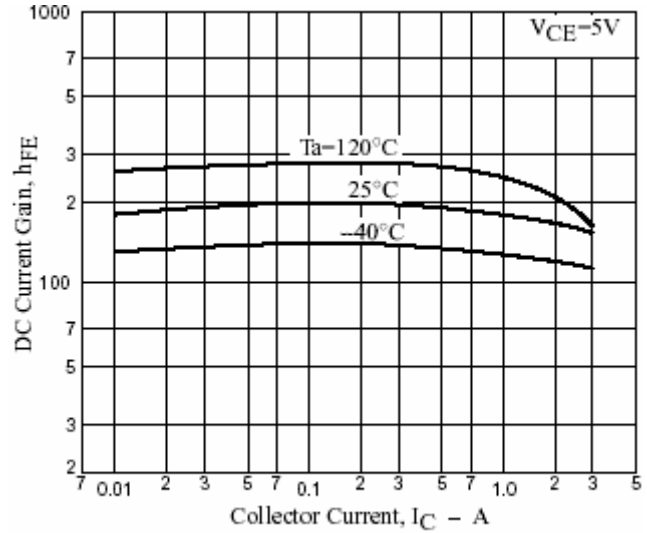


Fig.4 DC current Gain

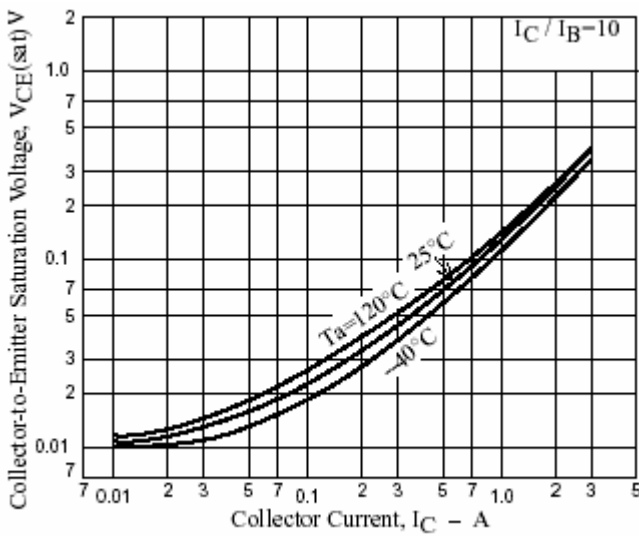


Fig.5 Collector-Emitter Saturation Voltage

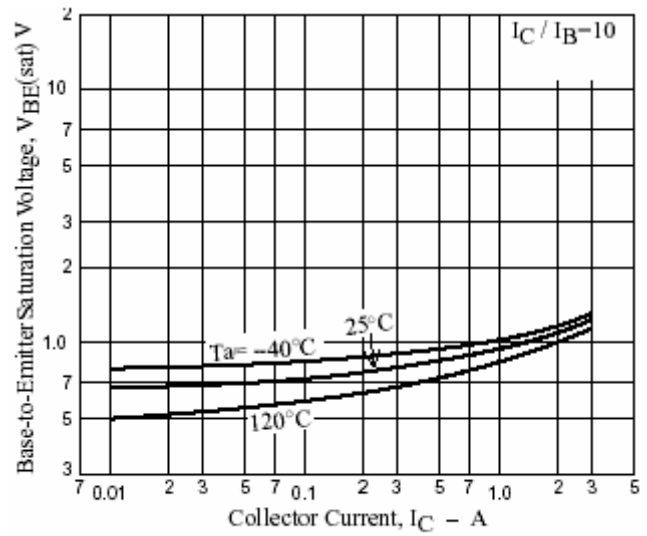


Fig.6 Base-Emitter Saturation Voltage

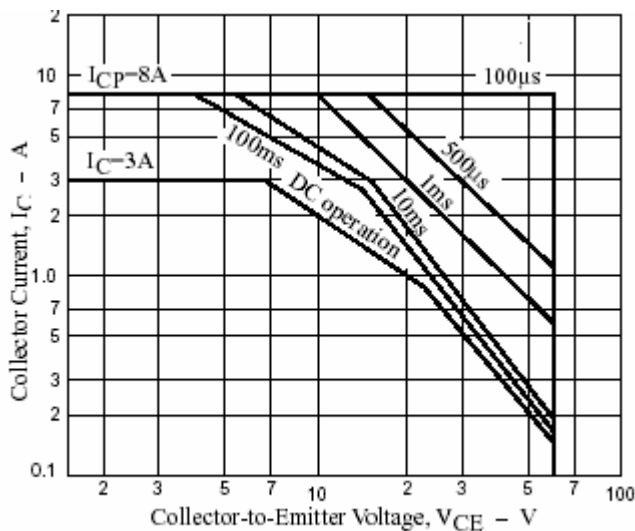


Fig.7 Safe Operating Area