

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

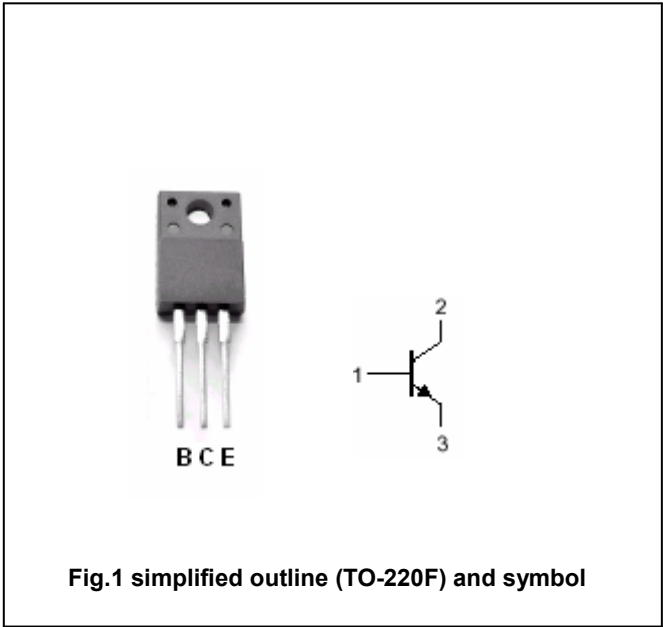


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25℃)

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	$T_C=25^{\circ}\text{C}$	20	W
			2	
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA; I_E=0$	60			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=5mA; R_{BE}=\infty$	60			V
$V_{(BR)EBO}$	Base-emitter breakdown voltage	$I_E=1mA; I_C=0$	6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2A; I_B=0.2A$		0.4	1.0	V
V_{BE}	Base-emitter voltage	$I_C=0.5A; V_{CE}=5V$		0.8	1.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=40V; I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=4V; I_C=0$			0.1	mA
h_{FE-1}	DC current gain	$I_C=0.5A; V_{CE}=5V$	70		280	
h_{FE-2}	DC current gain	$I_C=3A; V_{CE}=5V$	20			
f_T	Transition frequency	$I_C=0.5A; V_{CE}=5V$		100		MHz
C_{ob}	Output capacitance	$I_E=0; V_{CB}=10V; f=1MHz$		40		pF

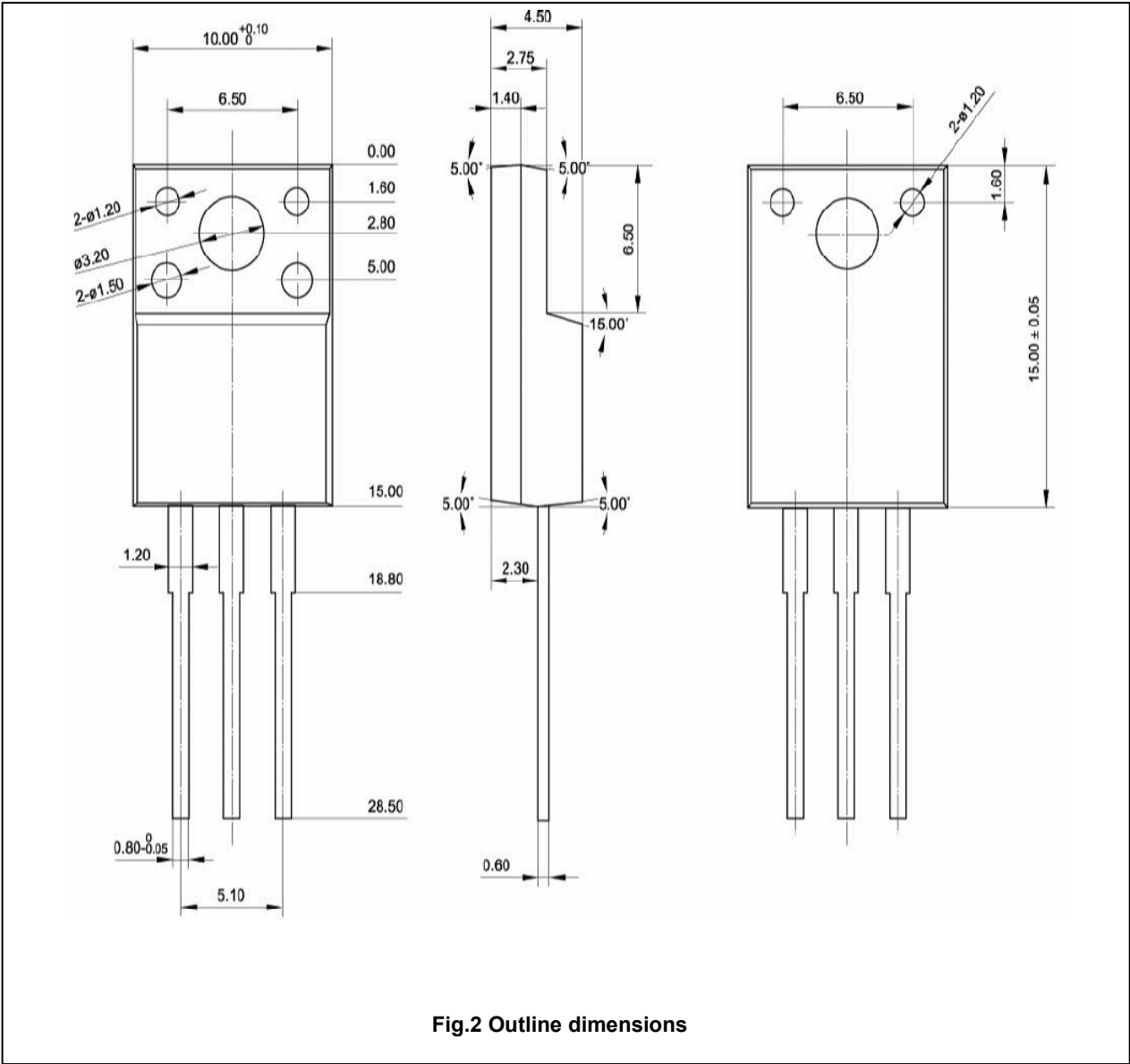
◆ h_{FE-1} classifications

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

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PACKAGE OUTLINE



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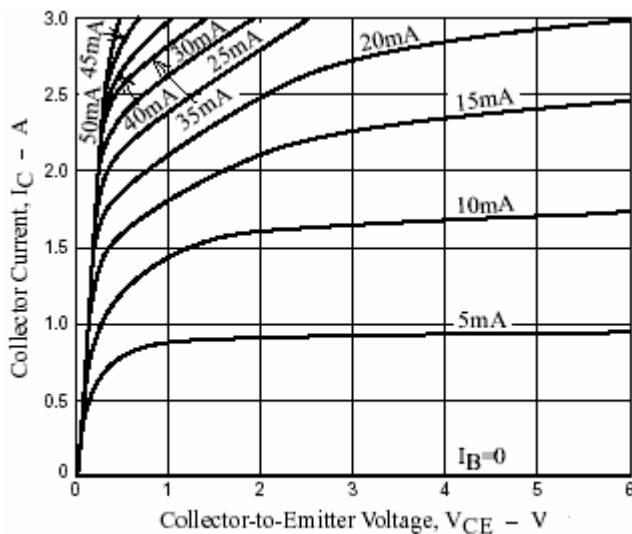


Fig.3 Static Characteristic

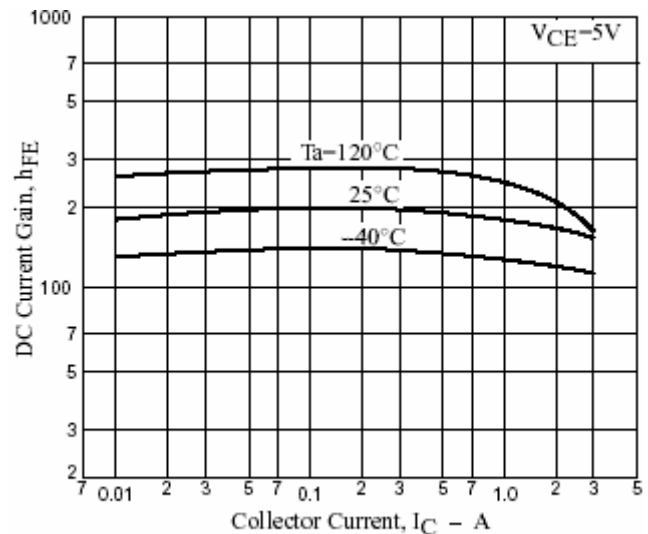


Fig.4 DC current Gain

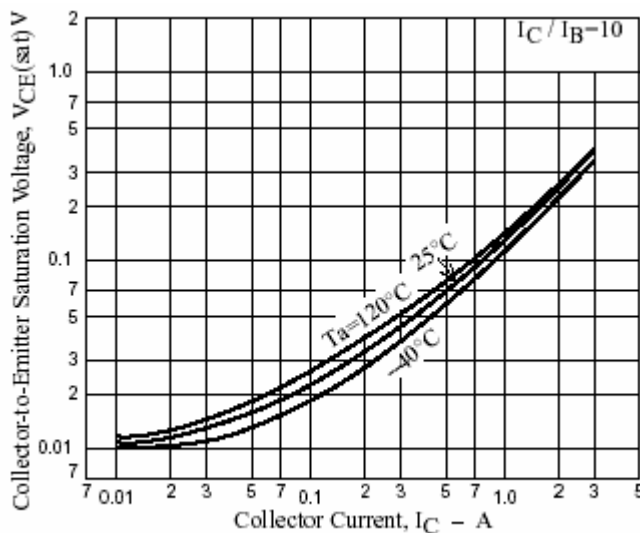


Fig.5 Collector-Emitter Saturation Voltage

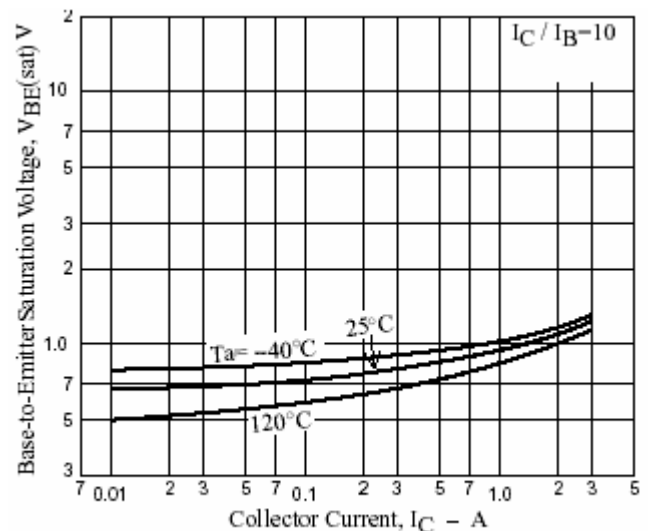


Fig.6 Base-Emitter Saturation Voltage

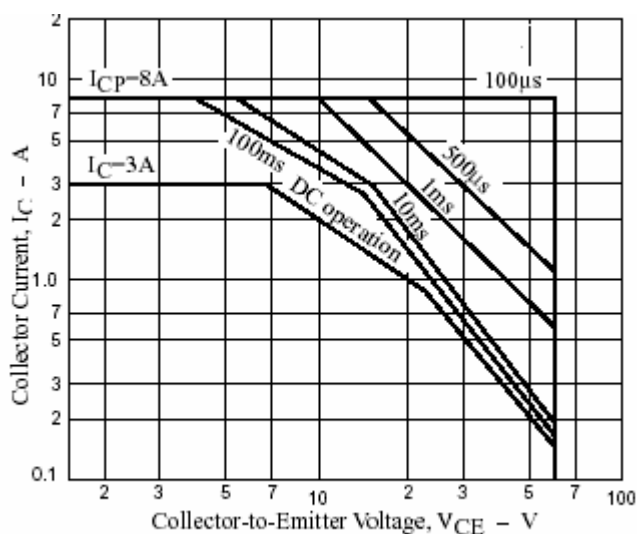


Fig.7 Safe Operating Area