

Silicon NPN Power Transistors

2SD1666

DESCRIPTION

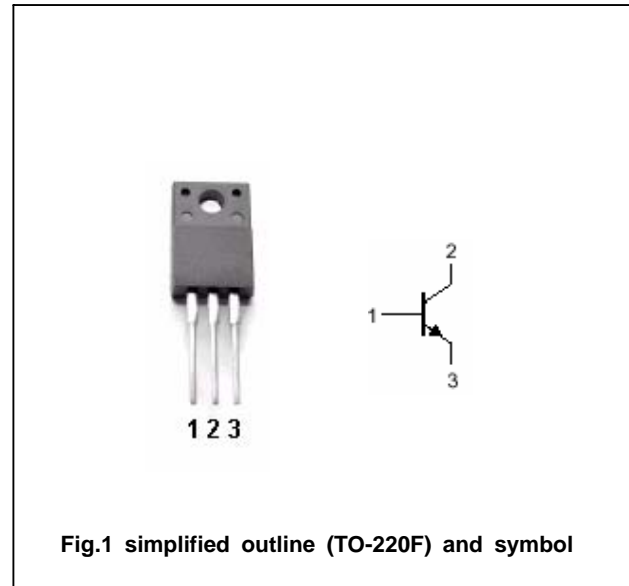
- With TO-220F package
- Complement to type 2SB1133
- High reliability
- Wide area of safe operation

APPLICATIONS

- For low-frequency and general-purpose amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	MAX	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	$T_a=25$	2	W
		$T_C=25$	25	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-40~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=5mA ; R_{BE}=$	60			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	$I_C=2A ; I_B=0.2A$		0.6	1.0	V
V_{BE}	Base-emitter on voltage	$I_C=0.5A ; V_{CE}=5V$		0.7	1.0	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	$I_C=0.5A ; V_{CE}=5V$	70		280	
h_{FE-2}	DC current gain	$I_C=3A ; V_{CE}=5V$	20			
C_{OB}	Output capacitance	$I_E=0 ; V_{CB}=10V ; f=1MHz$		60		pF
f_T	Transition frequency	$I_C=0.5A ; V_{CE}=5V$		8		MHz

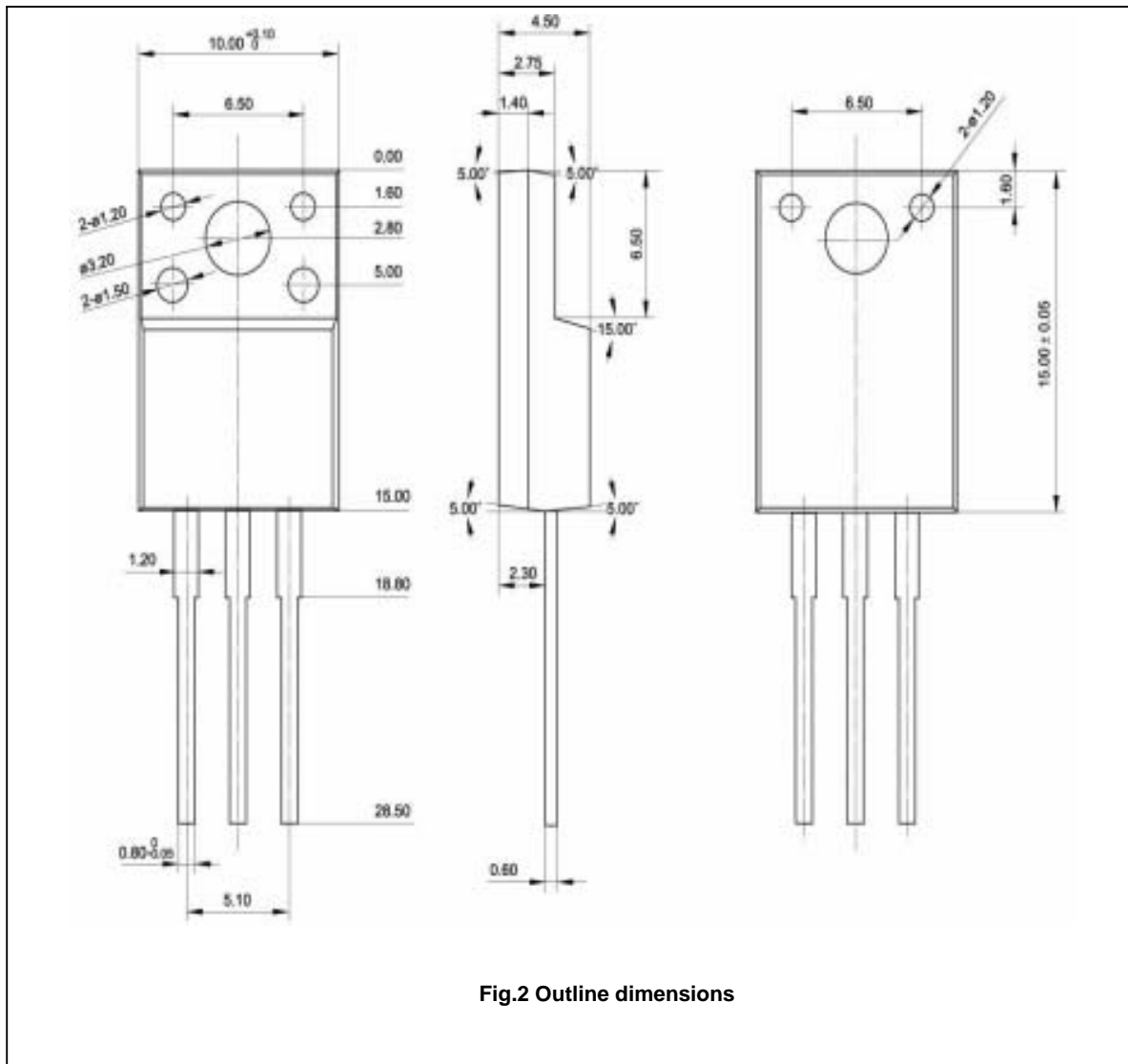
◆ h_{FE-1} Classifications

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

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PACKAGE OUTLINE



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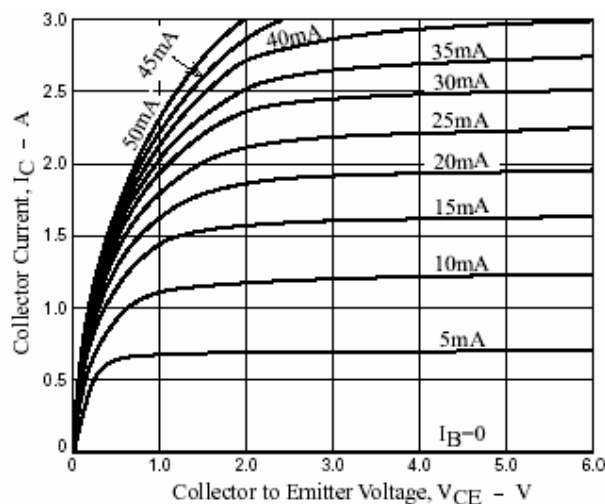


Fig.3 Static Characteristic

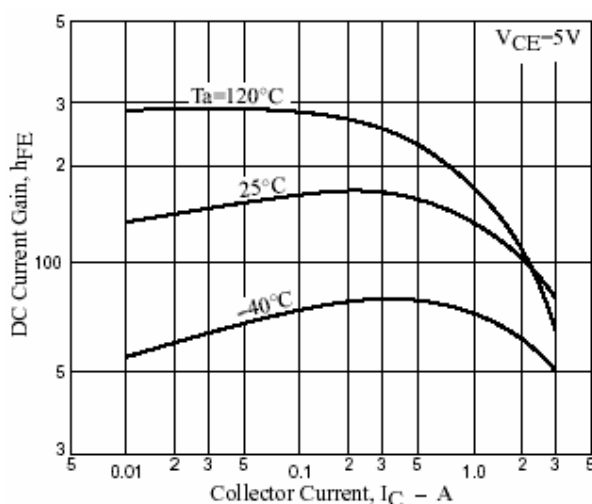


Fig.4 DC current Gain

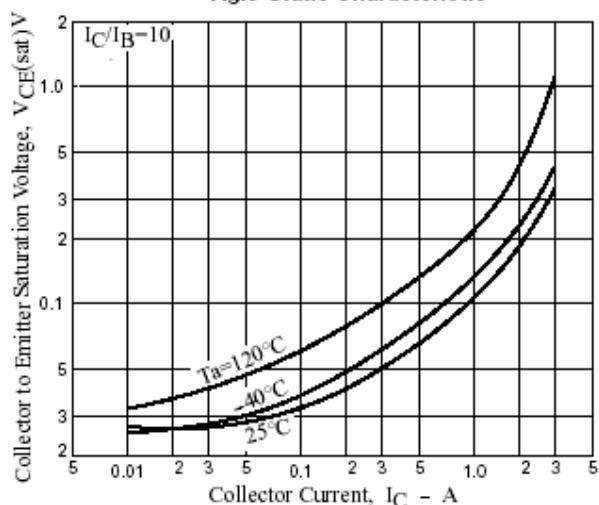


Fig.5 Collector-Emmitter Saturation Voltage

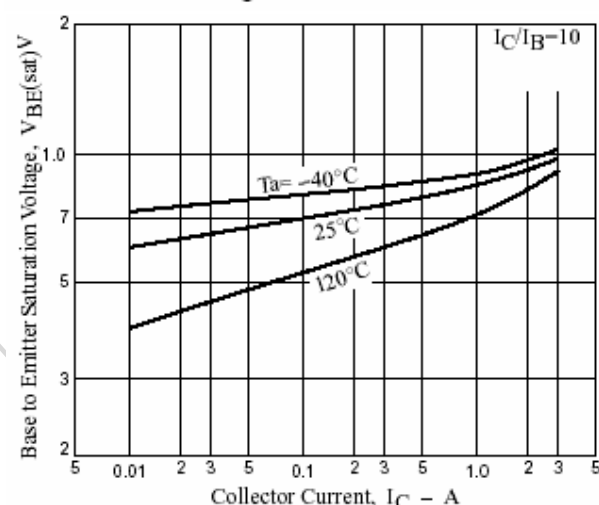


Fig.6 Base-Emmitter Saturation Voltage

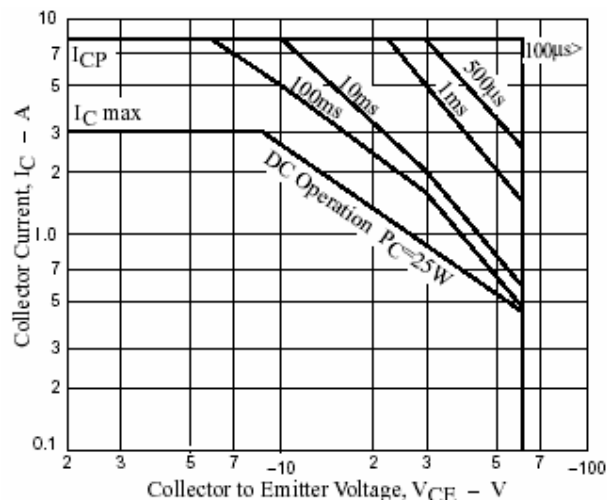


Fig.7 Safe Operating Area