

Silicon NPN Power Transistors

2SD2060

DESCRIPTION

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- With TO-220F package
- Complement to type 2SB1368
- Low collector saturation voltage:
 $V_{CE(SAT)}=1.7V(\text{Max})$ at $I_C=3A, I_B=0.3A$
- Collector power dissipation:
 $P_C=25W(T_C=25^\circ\text{C})$

APPLICATIONS

- With general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

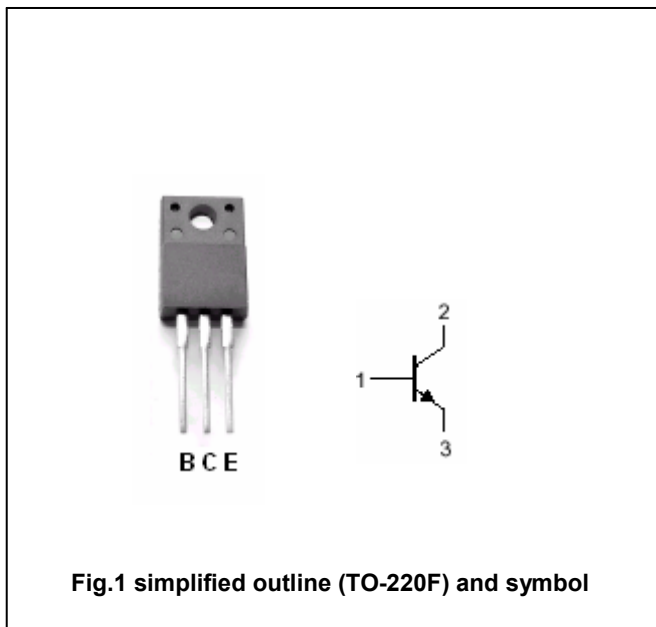


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	80	V
V_{CEO}	Collector-emitter voltage	Open base	80	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		4	A
I_B	Base current		0.4	A
P_C	Collector dissipation	$T_a=25^\circ\text{C}$	2.0	W
		$T_C=25^\circ\text{C}$	25	
T_j	Junction temperature		150	°C
T_{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =50mA ; I _B =0	80			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10mA ; I _C =0	5			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A ; I _B =0.3A		0.45	1.5	V
V _{BE}	Base-emitter on voltage	I _C =3A ; V _{CE} =5V		1.0	1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =80V ; I _E =0			30	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V ; I _C =0			100	μA
h _{FE-1}	DC current gain	I _C =0.5A ; V _{CE} =5V	40		240	
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =5V	15	50		
f _T	Transition frequency	I _C =0.5A ; V _{CE} =5V		8.0		MHz
C _{OB}	Collector output capacitance	f=1MHz ; V _{CB} =10V		90		pF

◆ h_{FE-1} Classifications

R	O	Y
40-80	70-140	120-240

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PACKAGE OUTLINE

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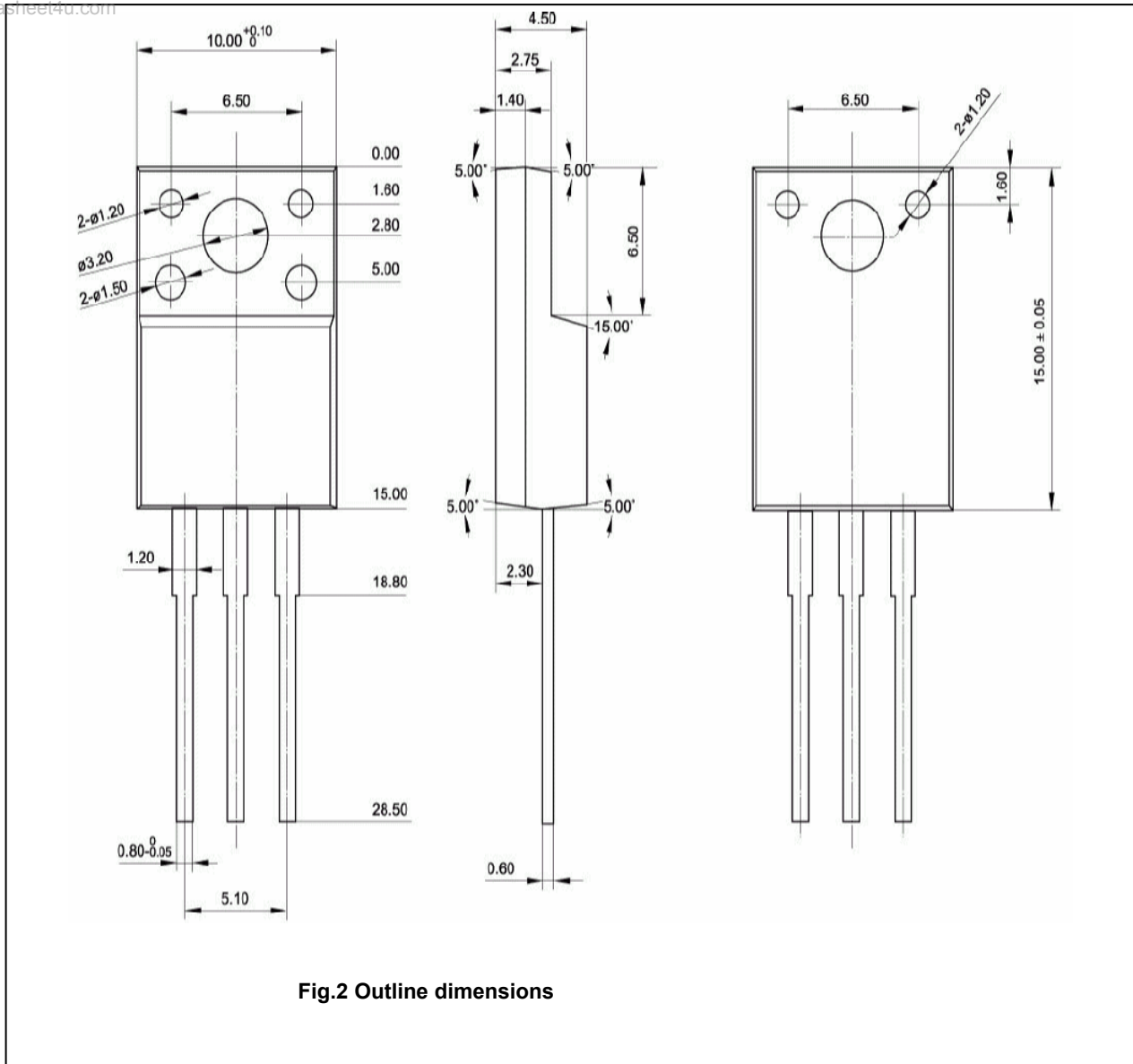


Fig.2 Outline dimensions

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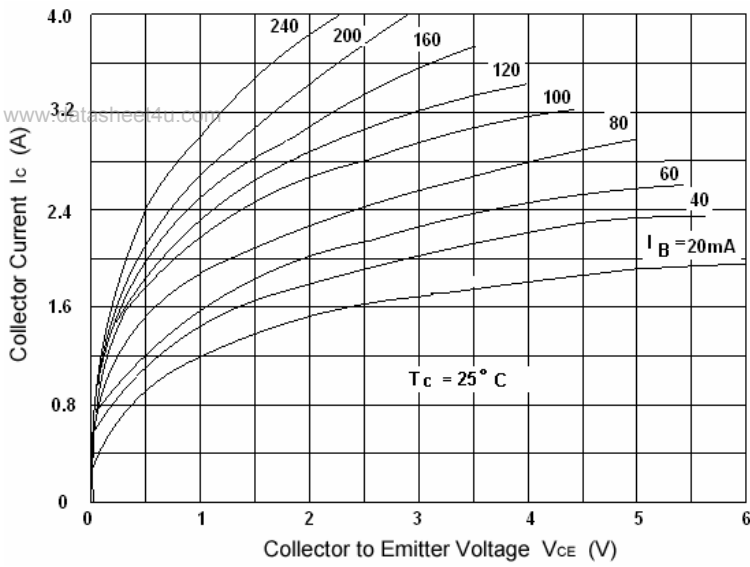


Fig.3 Static Characteristic

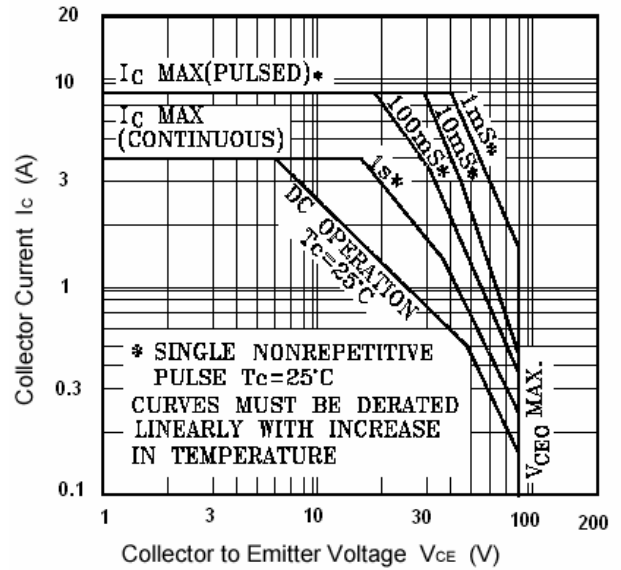


Fig.4 Safe Operating Area

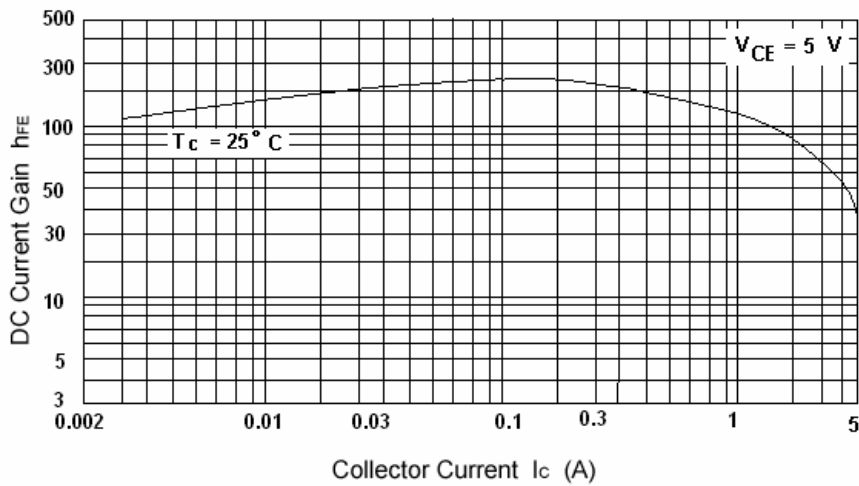


Fig.5 DC current Gain

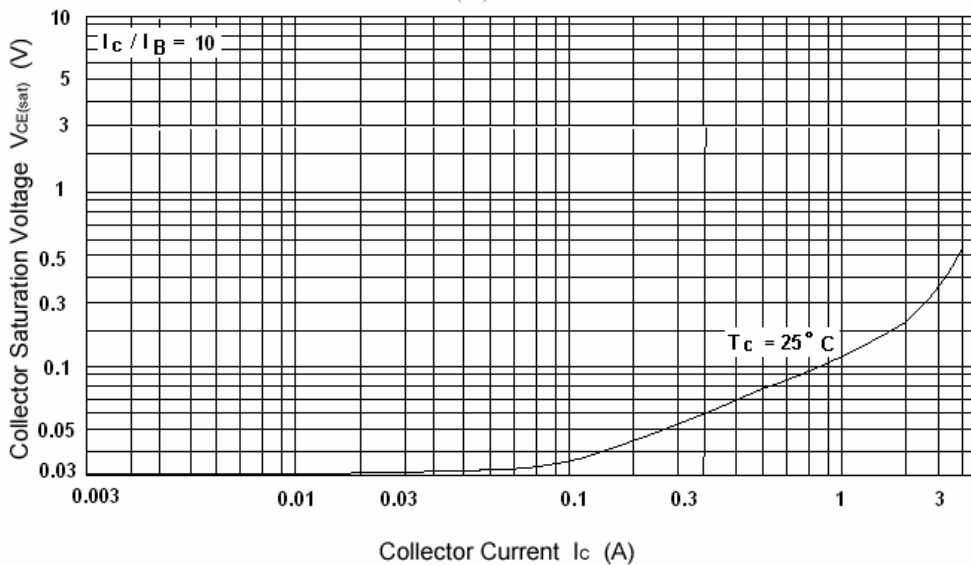


Fig.6 Base-Emitter Saturation Voltage