

Silicon NPN Power Transistors

2SD2058

DESCRIPTION

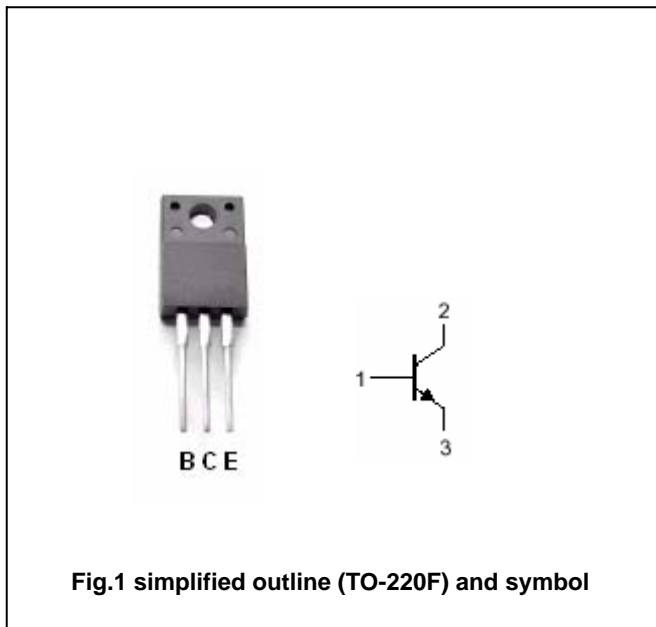
- With TO-220F package
- Complement to type 2SB1366
- Low collector saturation voltage:
 $V_{CE(SAT)}=1.0V(\text{Max})$ at $I_C=2A, I_B=0.2A$
- Collector power dissipation:
 $P_C=25W(T_C=25 \text{ }^\circ\text{C})$

APPLICATIONS

- With general purpose 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	7	V
I_C	Collector current		3	A
I_B	Base current		0.5	A
P_C	Collector dissipation	$T_a=25$	1.5	W
		$T_C=25$	25	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =50mA ; I _B =0	60			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =2A ; I _B =0.2A			1.5	V
V _{BE}	Base-emitter on voltage	I _C =0.5A ; V _{CE} =5V		3.0		V
I _{CBO}	Collector cut-off current	V _{CB} =60V ; I _E =0			10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =7V ; I _C =0			1.0	mA
h _{FE}	DC current gain	I _C =0.5A ; V _{CE} =5V	60			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =5V		3.0		MHz
C _{OB}	Collector output capacitance	f=1MHz ; V _{CB} =10V		35		pF

Switching times

t _{on}	Turn-on time	I _C =2.0A ; I _{B1} =-I _{B2} =0.2A V _{CC} =30V , R _L =15		0.65		μs
t _s	Storage time			1.30		μs
t _f	Fall time			0.65		μs

◆ h_{FE} Classifications

O	Y	G
60-120	100-200	150-300

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PACKAGE OUTLINE

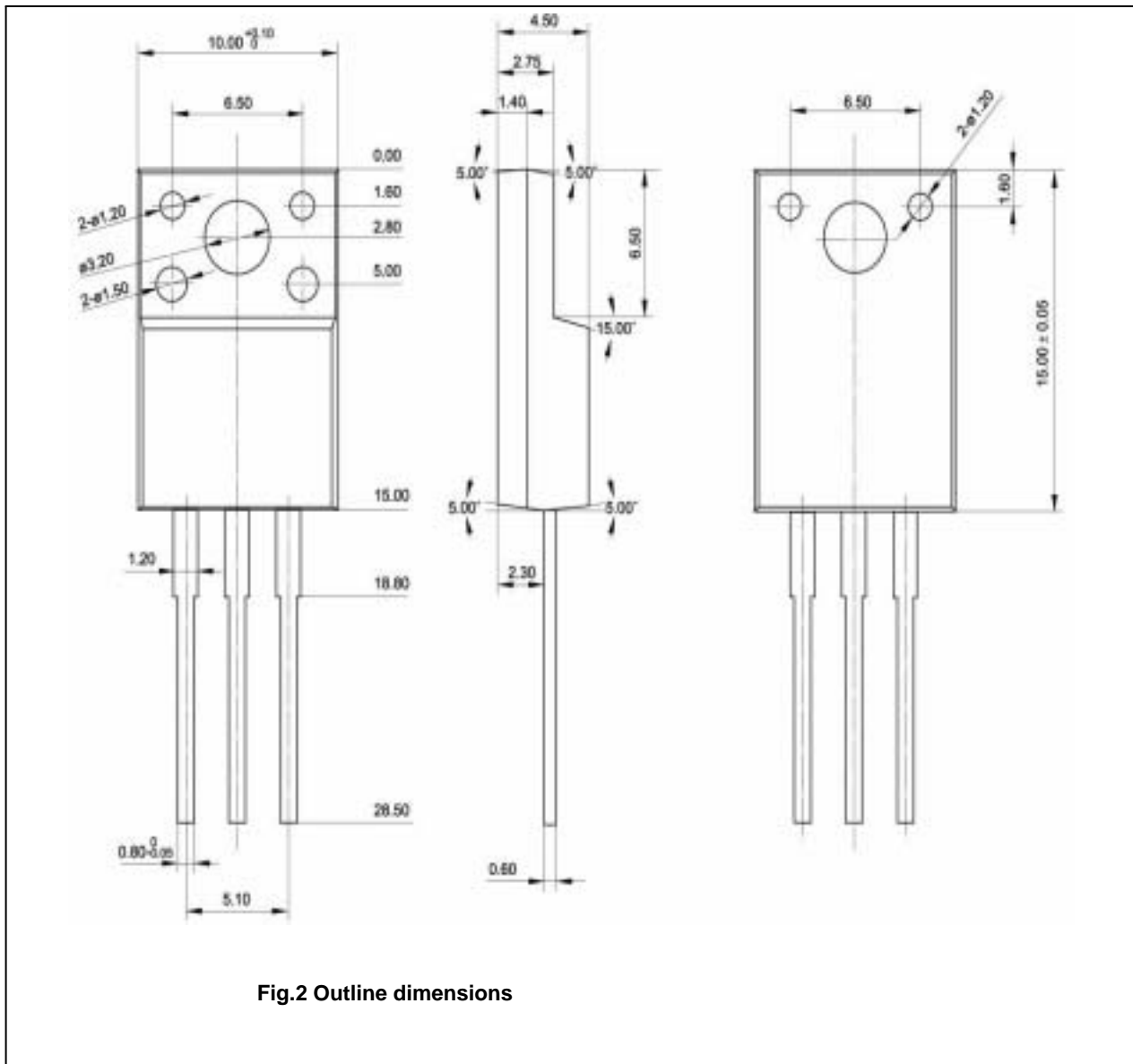


Fig.2 Outline dimensions

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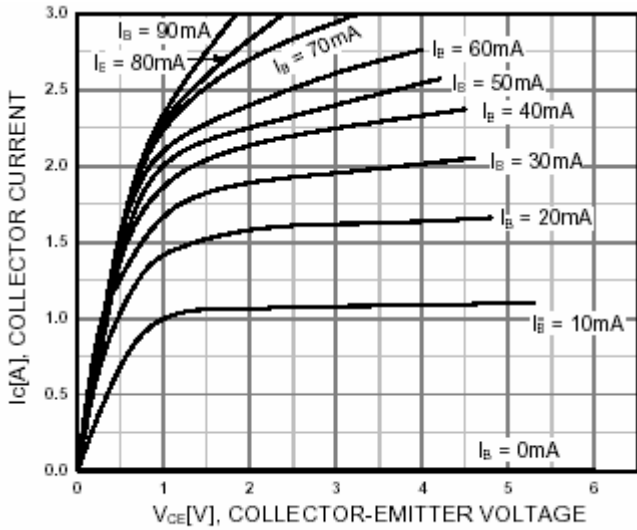


Fig.3 Static Characteristic

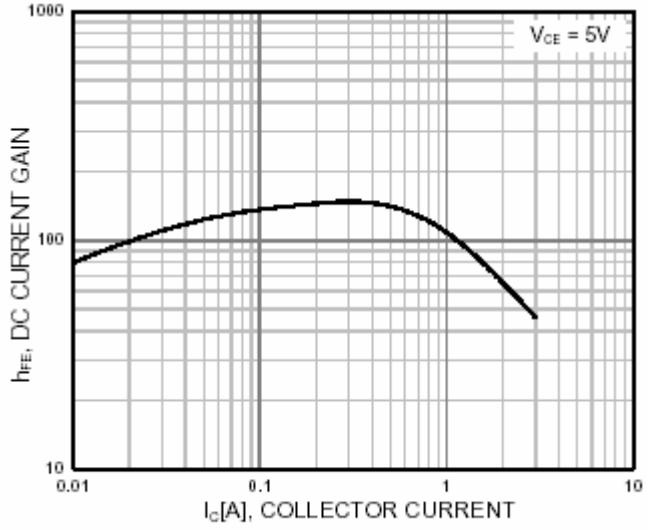


Fig.4 DC current Gain

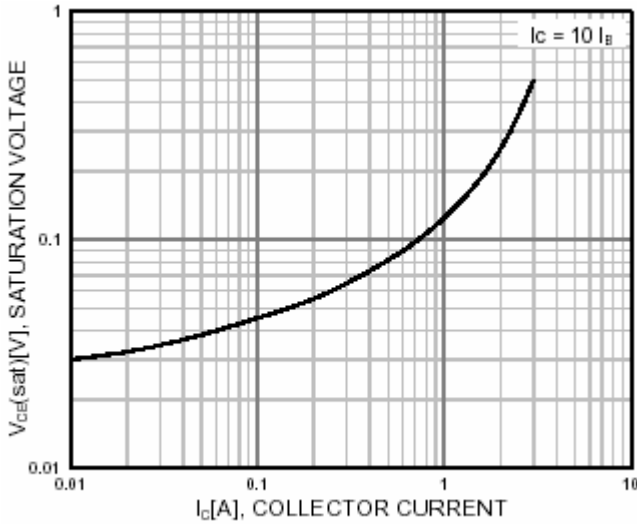


Fig.5 DC current Gain

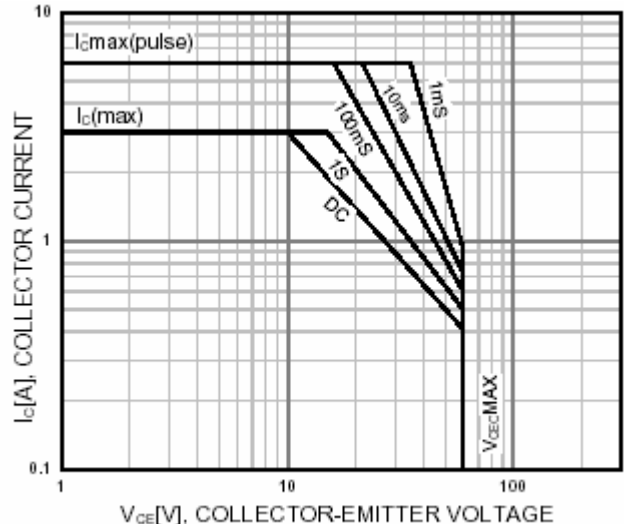


Fig.6 Safe Operating Area

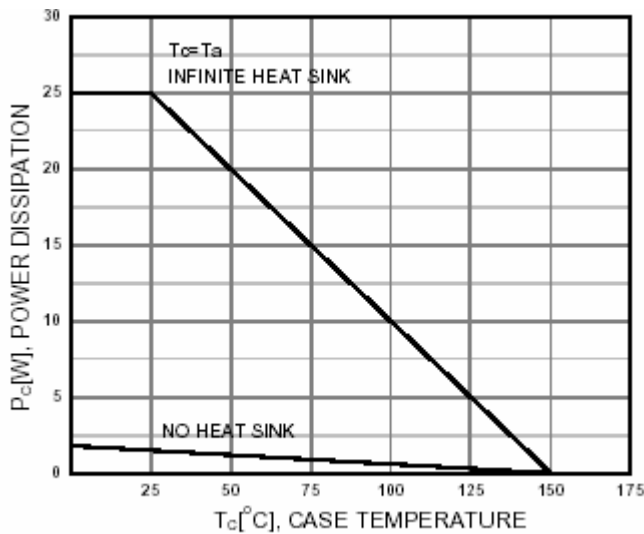


Fig.7 Power Derating