

Silicon NPN Power Transistors

2SD2058

DESCRIPTION

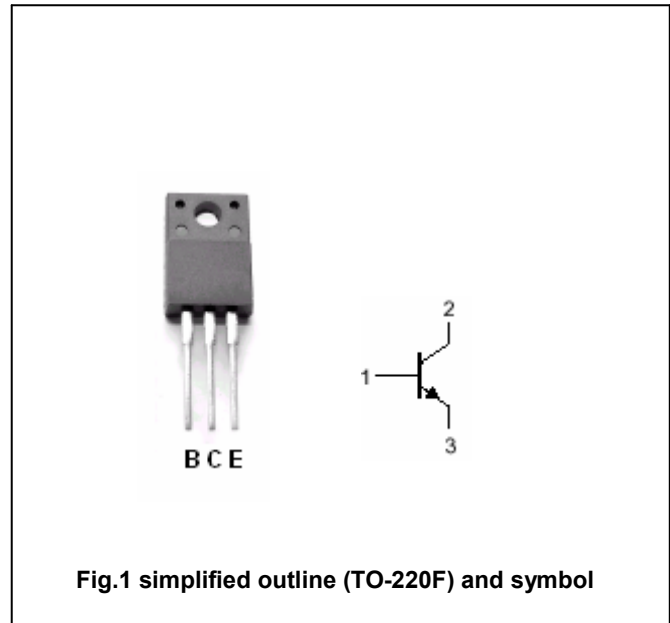
- With TO-220F package
- Complement to type 2SB1366
- Low collector saturation voltage:
 $V_{CE(SAT)}=1.0V(\text{Max})$ at $I_C=2A, I_B=0.2A$
- Collector power dissipation:
 $P_C=25W(T_C=25^\circ\text{C})$

APPLICATIONS

- With general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

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	$T_a=25^\circ\text{C}$	1.5	W
		$T_C=25^\circ\text{C}$	25	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C 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	$I_C=2.0A ; I_{B1}=-I_{B2}=0.2A$ $V_{CC}=30V , R_L=15\Omega$		0.65		μs
t_s	Storage time			1.30		μs
t_f	Fall time			0.65		μs

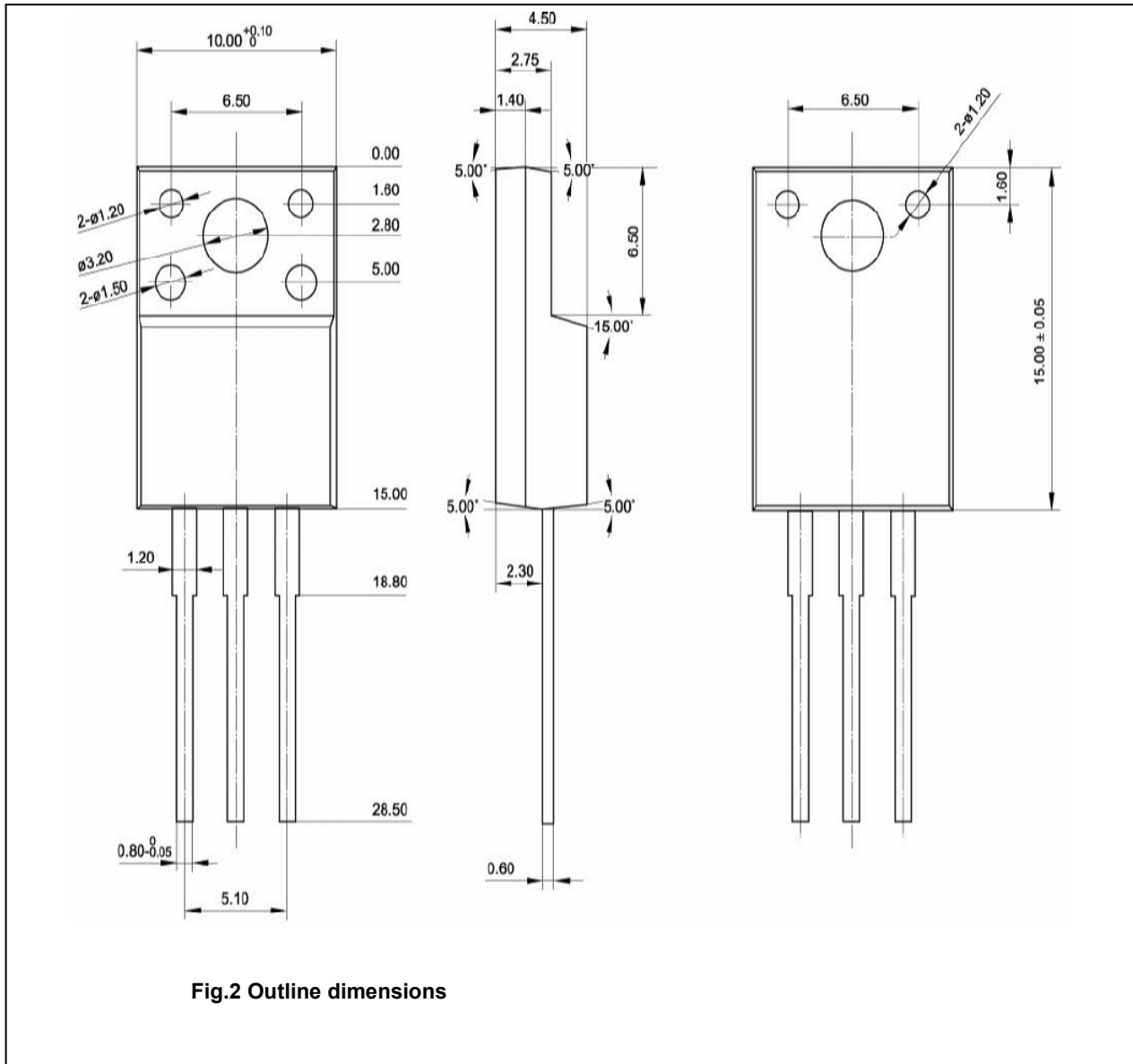
◆ h_{FE} Classifications

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

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PACKAGE OUTLINE



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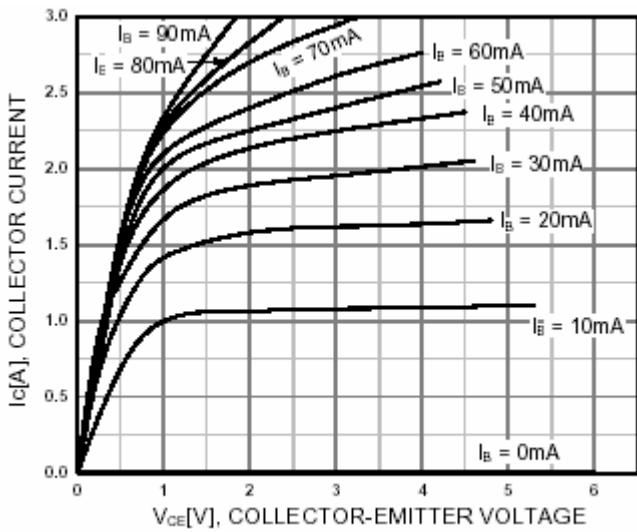


Fig.3 Static Characteristic

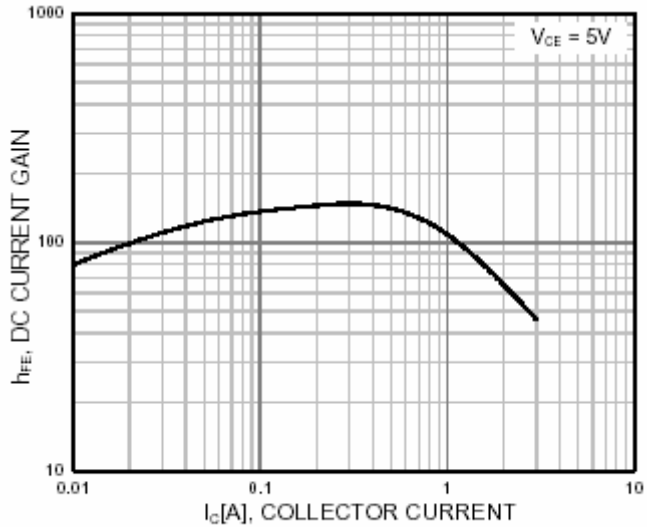


Fig.4 DC current Gain

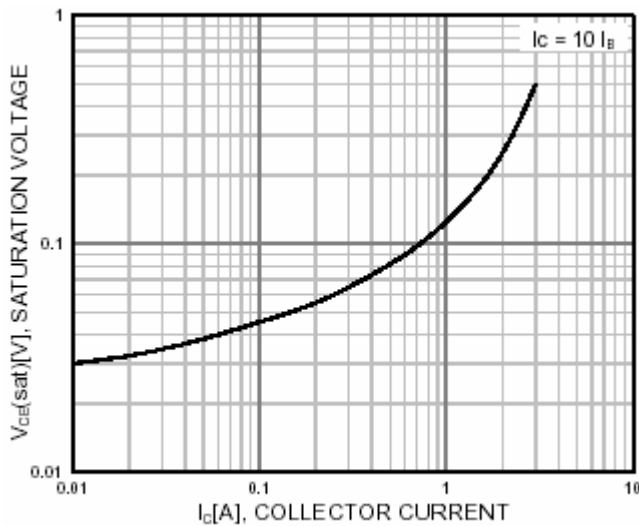


Fig.5 DC current Gain

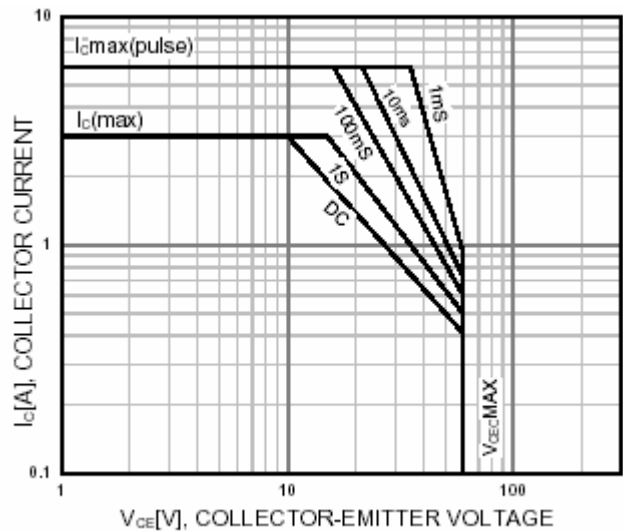


Fig.6 Safe Operating Area

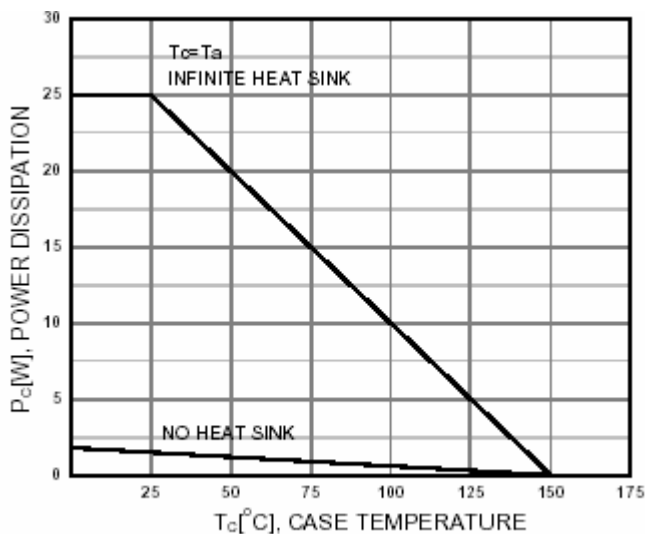


Fig.7 Power Derating