

Silicon NPN Power Transistors

2SD1061

DESCRIPTION

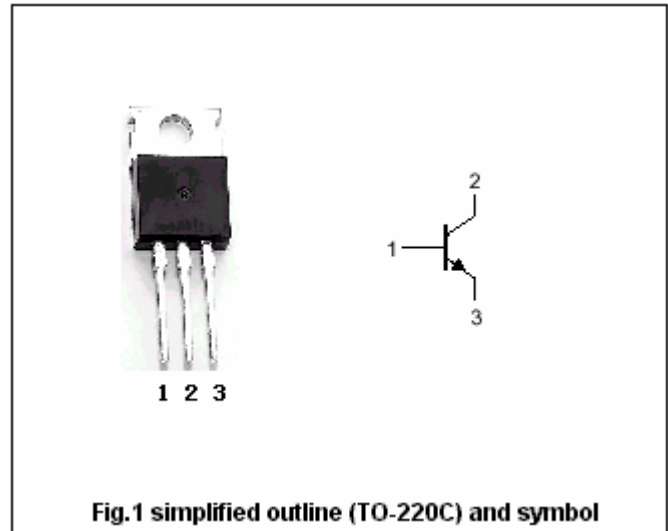
- With TO-220 package
- Low collector saturation voltage
- Wide ASO(safe operating area)
- Complement to type 2SB825

APPLICATIONS

- Universal high current switching as solenoid driving,
- High speed inverter and converter. relay drivers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



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	50	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current (DC)		7	A
I_{CP}	Collector current-peak		12	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	40	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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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 =1mA ; R _{BE} =∞	50			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 =4A, I _B =0.4A			0.4	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 =1A ; V _{CE} =2V	70		280	
h _{FE-2}	DC current gain	I _C =5A ; V _{CE} =2V	30			
f _T	Transition frequency	I _C =1A ; V _{CE} =5V		10		MHz

Switching times

t _{on}	Turn-on time	I _C =2A I _{B1} =- I _{B2} =0.2A V _{CC} =20V; R _L =10Ω		0.2		μs
t _s	Storage time			0.9		μs
t _f	Fall time			0.3		μs

◆ h_{FE-1} classifications

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

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PACKAGE OUTLINE

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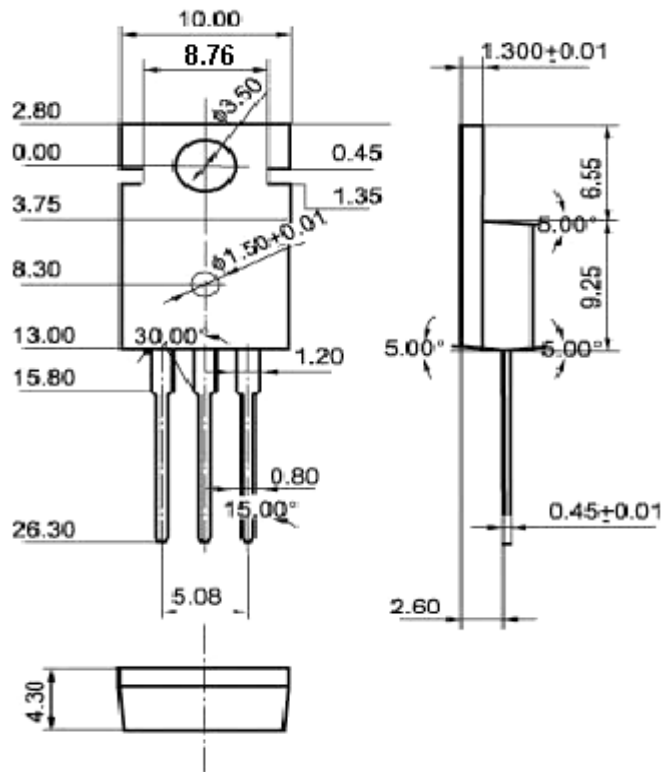


Fig.2 outline dimensions (unindicated tolerance: ± 0.10 mm)

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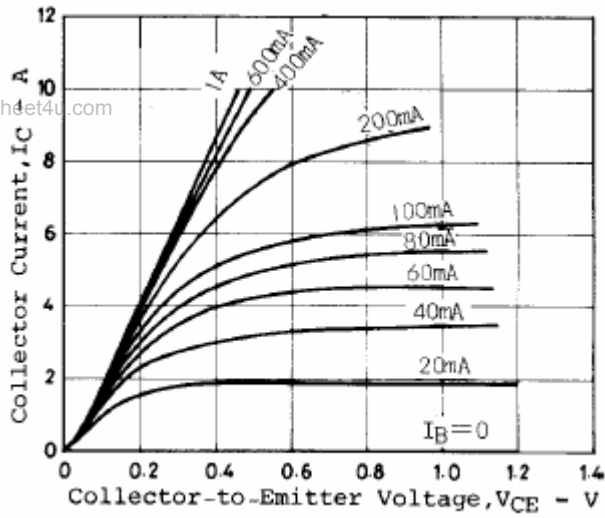


Fig.3 Static Characteristic

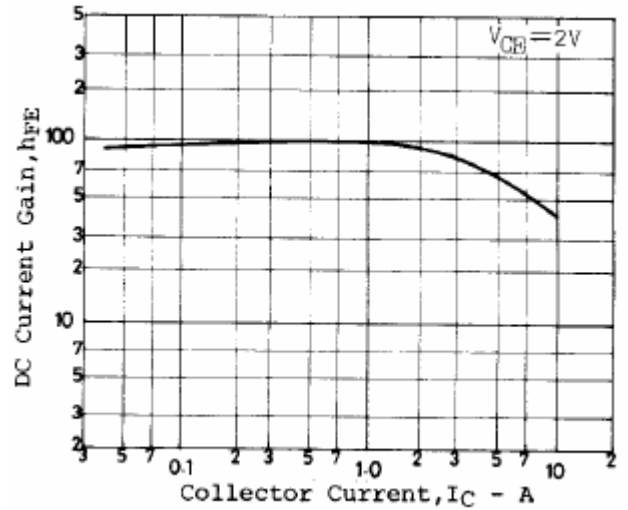


Fig.4 DC current Gain

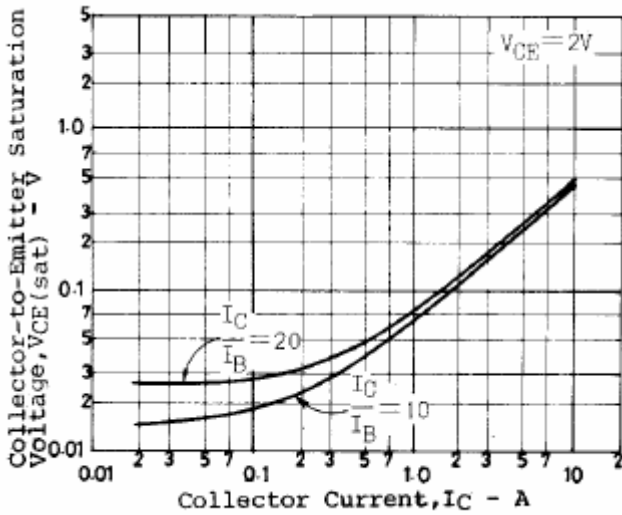


Fig.5 Collector-Emitter Saturation Voltage

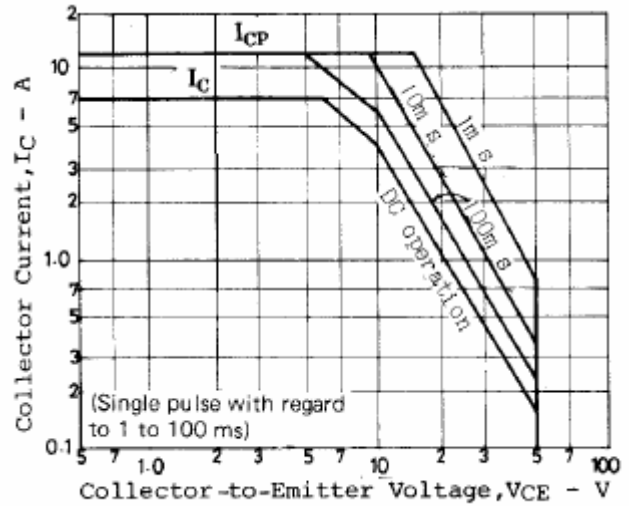


Fig.6 Safe Operating Area