

Silicon NPN Power Transistors

2SD1063

DESCRIPTION

- With TO-3PN package
- Wide area of safe operation
- Low collector saturation voltage
- Complement to type 2SB827

APPLICATIONS

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

PINNING

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

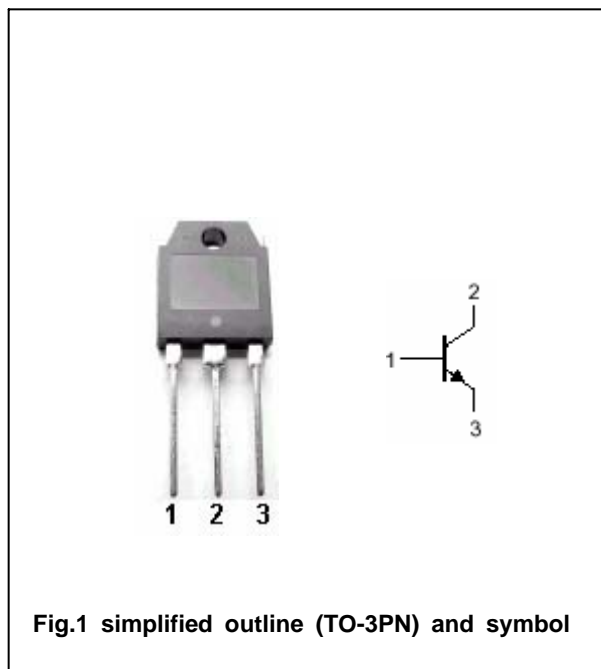


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Tc=25 )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	60	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	50	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		7	A
I <sub>CM</sub>	Collector current -peak		14	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	60	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

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**CHARACTERISTICS**

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =1mA ; R <sub>BE</sub> =∞	50			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =1mA ; I <sub>E</sub> =0	60			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =1mA ; I <sub>C</sub> =0	6			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =4A; I <sub>B</sub> =0.4A			0.4	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =40V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =4V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =2V	70		280	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =2V	30			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V		10		MHz

Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2.0A; I <sub>B1</sub> =-I <sub>B2</sub> =0.2A V <sub>CC</sub> =20V; R <sub>L</sub> =10		0.20		μs
t <sub>stg</sub>	Storage time			0.90		μs
t <sub>f</sub>	Fall time			0.30		μs

◆ **h<sub>FE-1</sub> Classifications**

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

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PACKAGE OUTLINE

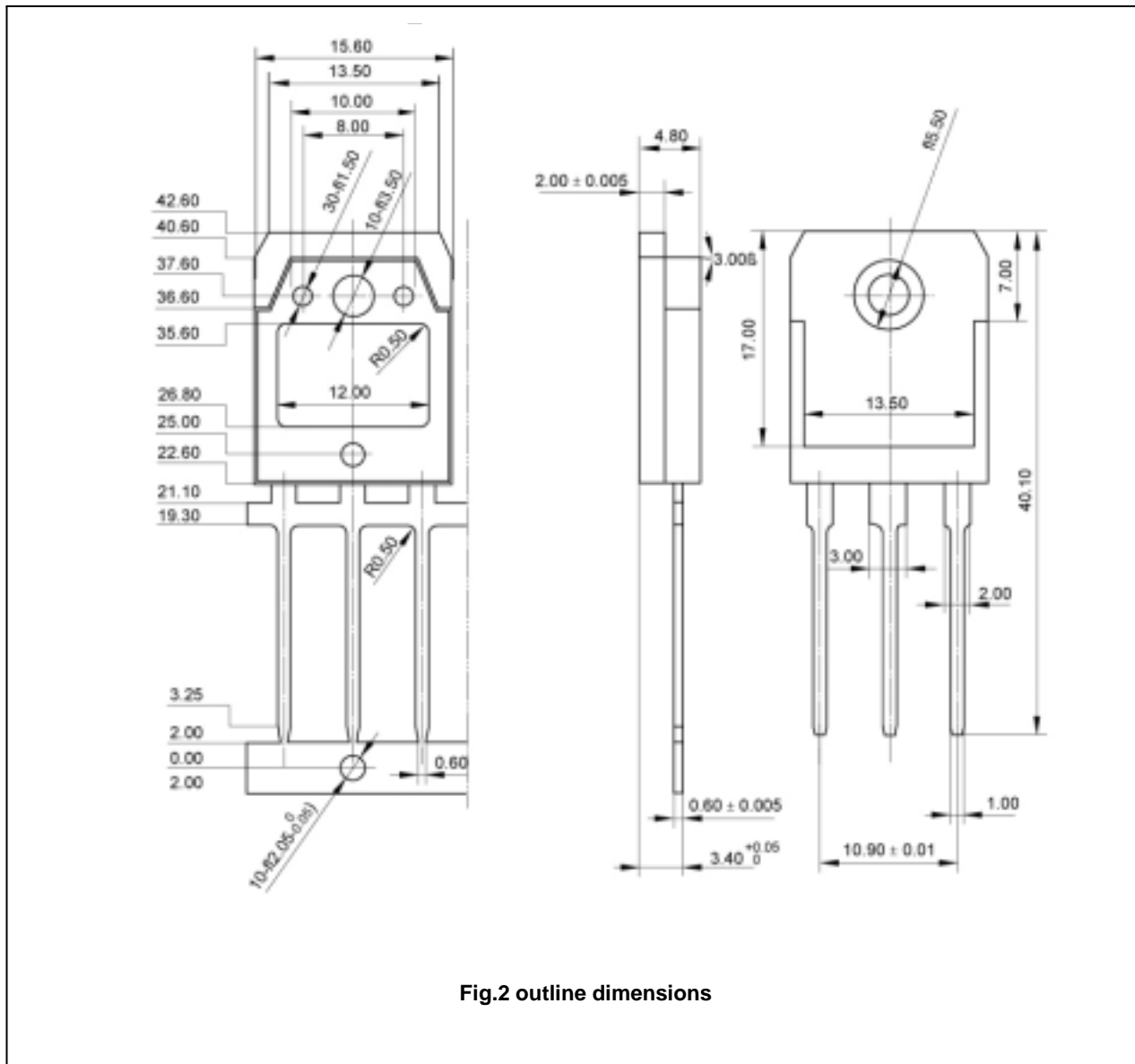


Fig.2 outline dimensions

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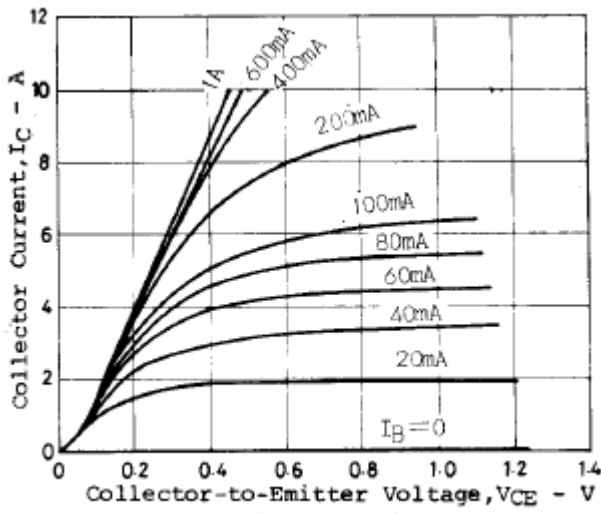


Fig.3 Static Characteristic

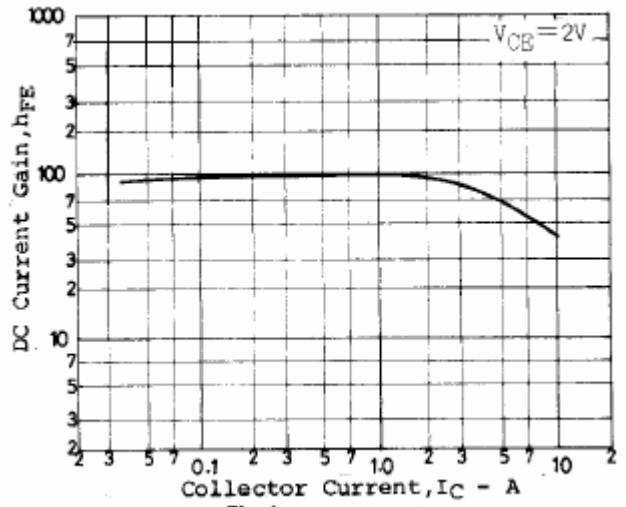


Fig.4 DC current Gain

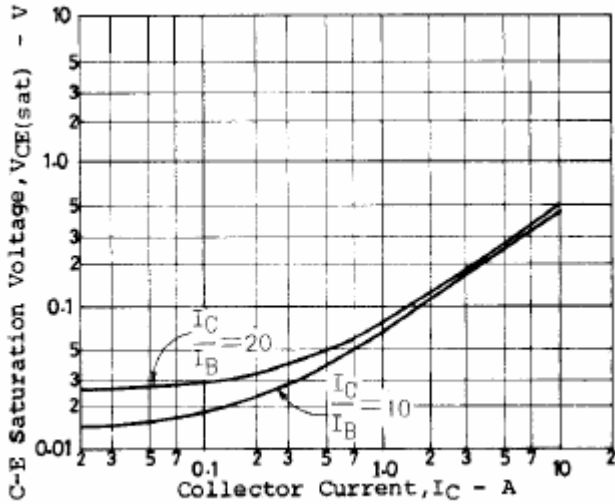


Fig.5 Collector-Emitter Saturation Voltage

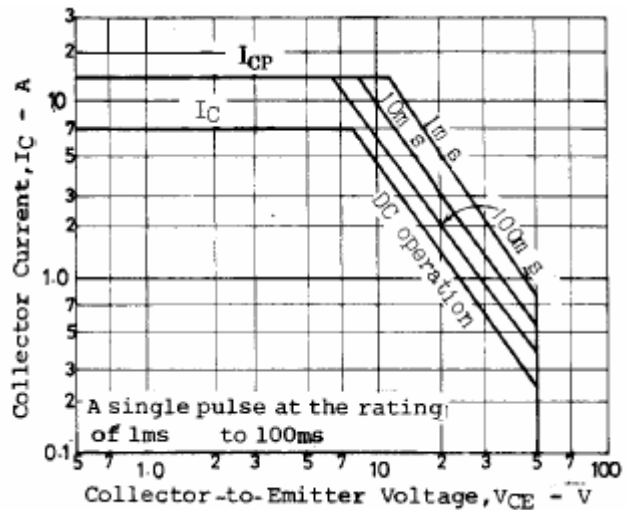


Fig.6 Safe Operating Area