

Inchange Semiconductor

Product Specification

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

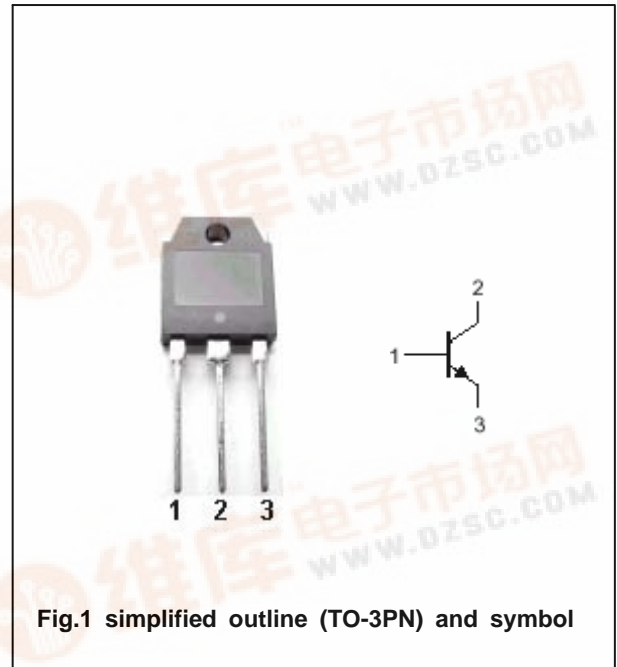


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Tc=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{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 _{CM}	Collector current -peak		14	A
P _C	Collector power dissipation	T _C =25	60	W
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 =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 =2.0A ; I _{B1} =-I _{B2} =0.2A V _{CC} =20V ; R _L =10		0.20		μs
t _{stg}	Storage time			0.90		μs
t _r	Fall time			0.30		μs

◆ h_{FE-1} Classifications

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

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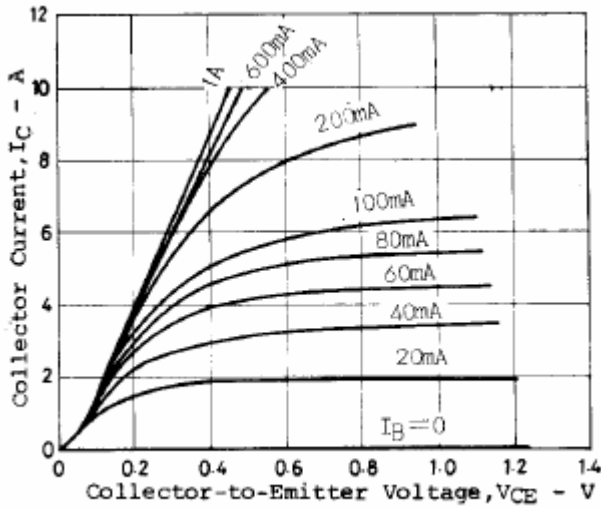


Fig.3 Static Characteristic

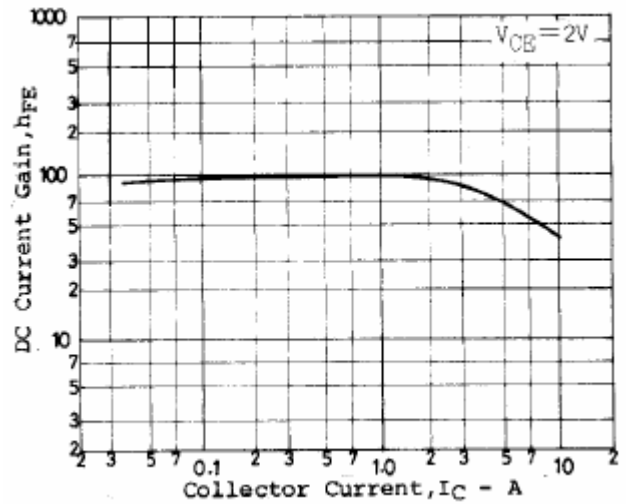


Fig.4 DC current Gain

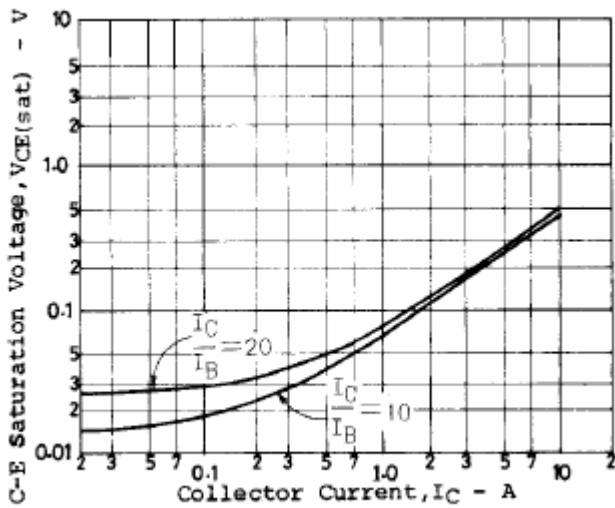


Fig.5 Collector-Emitter Saturation Voltage

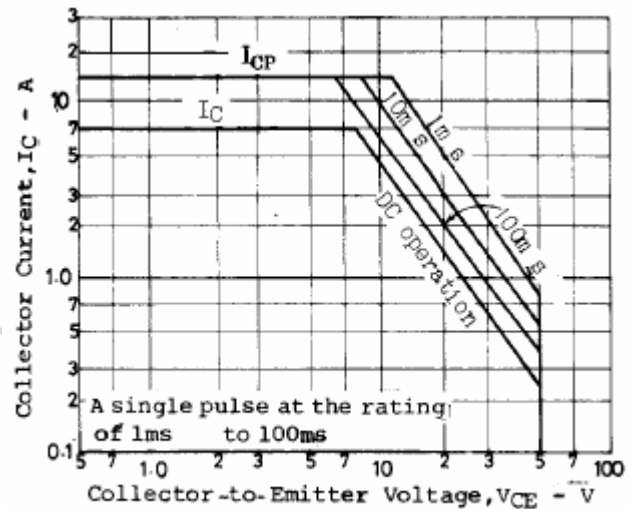


Fig.6 Safe Operating Area