

Silicon NPN Power Transistors

2SD1064

DESCRIPTION

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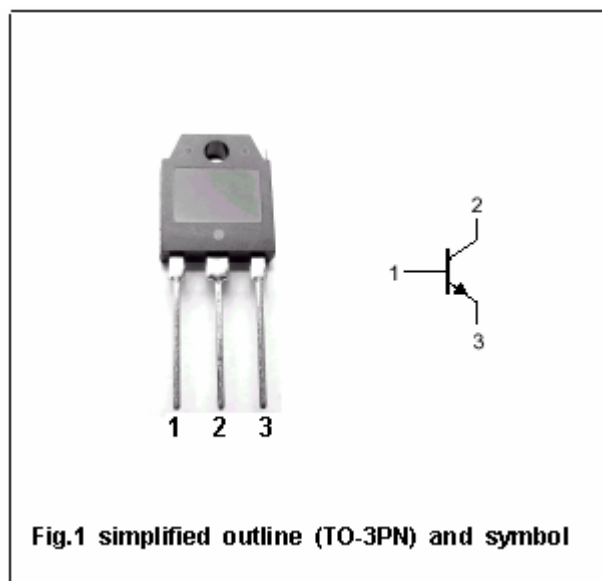
- With TO-3PN package
- Complement to type 2SB828
- Wide area of safe operation
- Low collector saturation voltage

APPLICATIONS

- Relay drivers,
- High-speed inverters,
- Converters,
- General high-current switching applications

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	60	V
V_{CEO}	Collector-emitter voltage	Open base	50	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current (DC)		12	A
I_{CM}	Collector current -peak		17	A
P_C	Collector power dissipation	$T_c=25^\circ\text{C}$	80	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

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 $T_j = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = 1\text{mA}$; $R_{BE} = \infty$	50			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = 1\text{mA}$; $I_E = 0$	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 1\text{mA}$; $I_C = 0$	6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C = 6\text{A}$; $I_B = 0.3\text{A}$			0.4	V
I_{CBO}	Collector cut-off current	$V_{CB} = 40\text{V}$; $I_E = 0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = 4\text{V}$; $I_C = 0$			0.1	mA
h_{FE-1}	DC current gain	$I_C = 1\text{A}$; $V_{CE} = 2\text{V}$	70		280	
h_{FE-2}	DC current gain	$I_C = 5\text{A}$; $V_{CE} = 2\text{V}$	30			
f_T	Transition frequency	$I_C = 1\text{A}$; $V_{CE} = 5\text{V}$		10		MHz

Switching times

t_{on}	Turn-on time	$I_C = 5.0\text{A}$; $I_{B1} = -I_{B2} = 0.5\text{A}$ $V_{CC} = 20\text{V}$; $R_L = 4\Omega$		0.1		μs
t_{stg}	Storage time			0.05		μs
t_f	Fall time			1.2		μs

◆ h_{FE-1} Classifications

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

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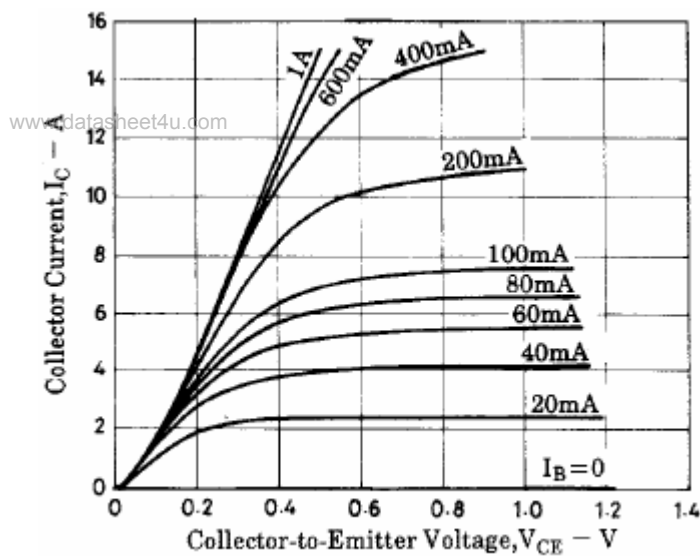


Fig.3 Static Characteristic

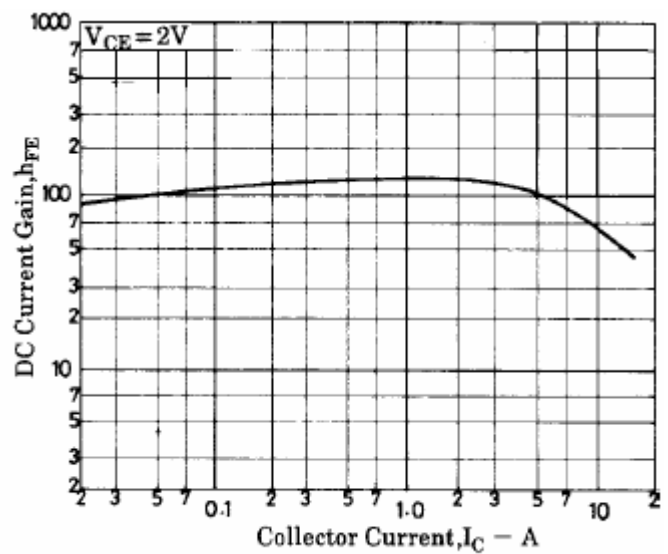


Fig.4 DC current Gain

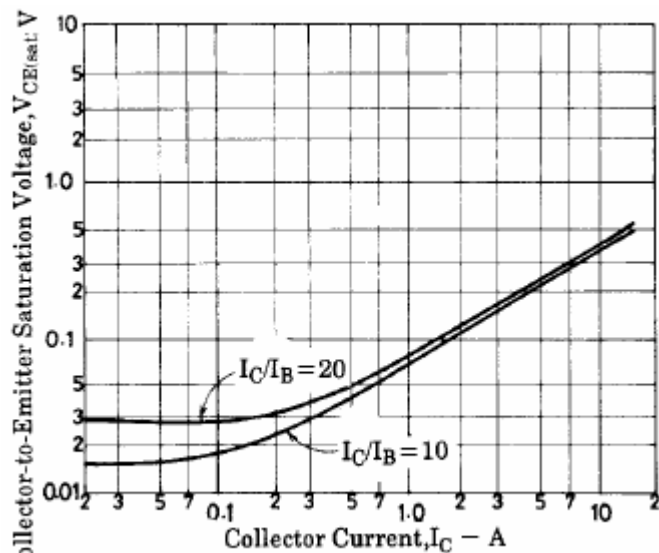


Fig.5 Collector-Emitter Saturation Voltage

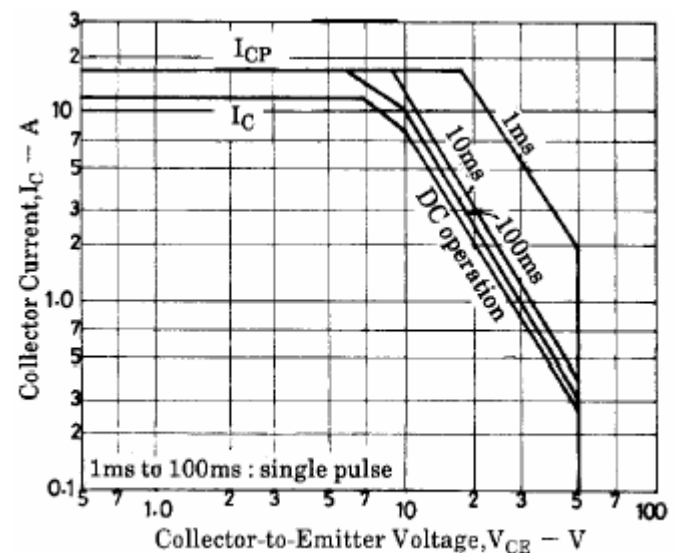


Fig.6 Safe Operating Area