Silicon PNP Power Transistors 2SB824

DESCRIPTION

- With TO-220 package
- Low collector-emitter saturation voltage
- Complement to type 2SD1060

APPLICATIONS

- Suitable for relay drivers,high-speed Inverters,converters,and other general large-current switching applications

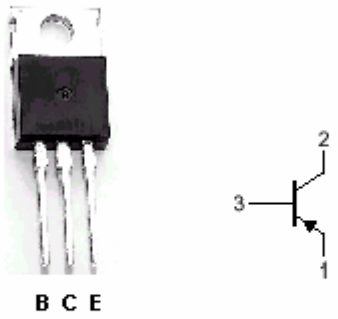

Fig.1 simplified outline (TO-220C) and symbol

PINNING

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

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)		-5	A
I_{CP}	Collector current (Pulse)		-9	A
P_C	Collector power dissipation	T_C=25℃	30	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=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=-3A; I_B=-0.3A			-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=-3A ; V_{CE}=-2V	30			
C_{OB}	Output capacitance	I_E=0 ; V_{CB}=-10V;f=1MHz		160		pF
f_T	Transition frequency	I_C=-1A ; V_{CE}=-5V		30		MHz
Switching times						
t_{on}	Turn-on time	I_C=-2.0A; I_{B1}=- I_{B2}=-0.2A		0.1		μs
t_s	Storage time			0.7		μs
t_f	Fall time			0.2		μs

◆ **h_{FE-1} classifications**

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

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PACKAGE OUTLINE

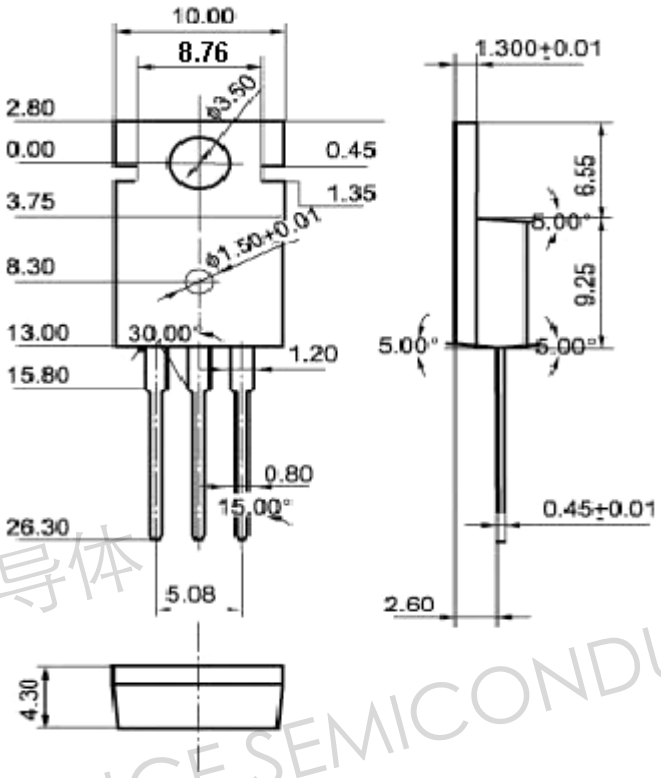

Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)

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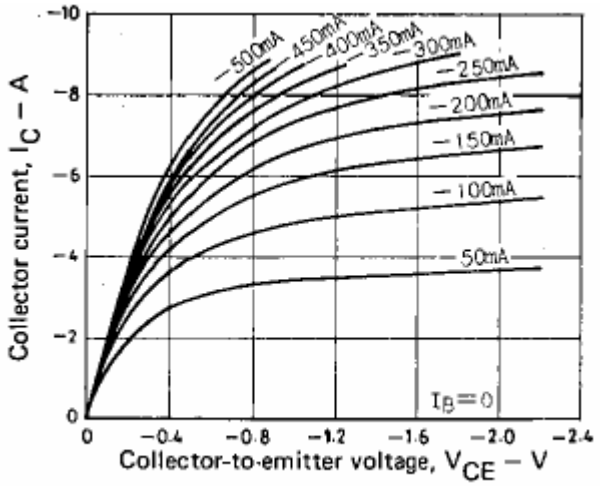

Fig.3 Static Characteristic

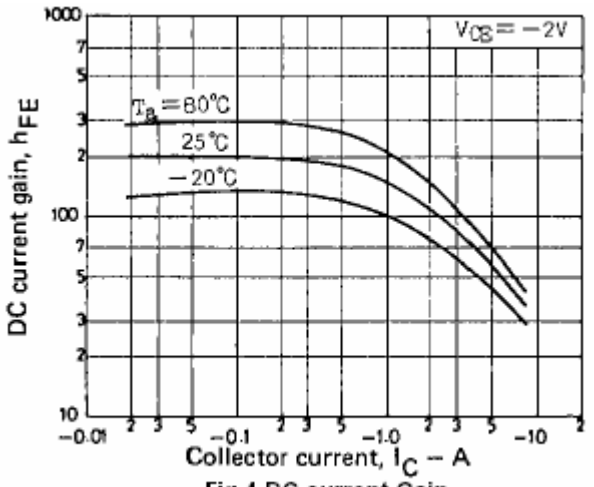

Fig.4 DC current Gain

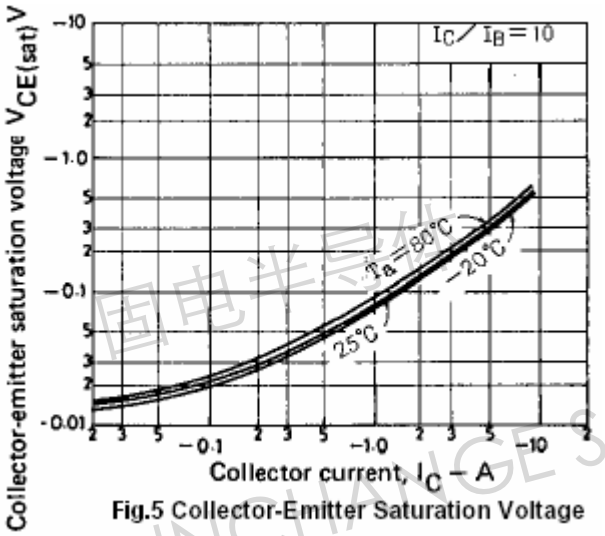

Fig.5 Collector-Emitter Saturation Voltage

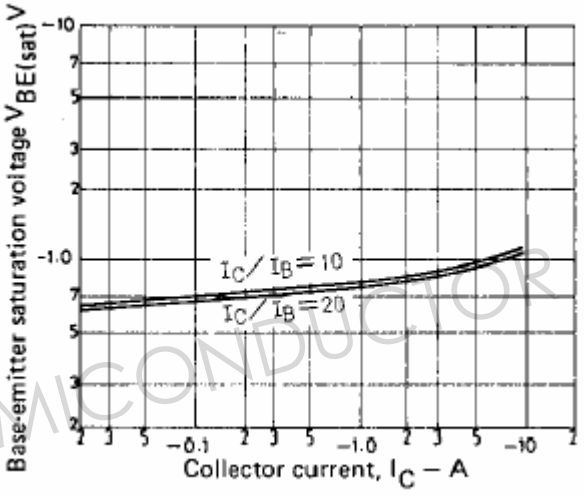

Fig.6 Base-Emitter Saturation Voltage

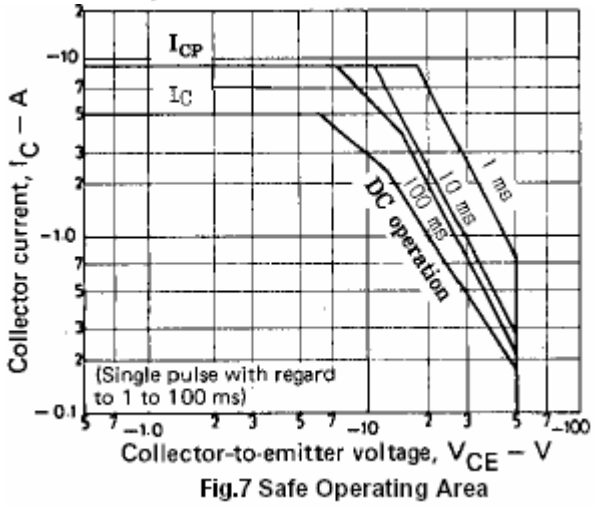

Fig.7 Safe Operating Area