

Silicon PNP Power Transistors

2SB1151

DESCRIPTION

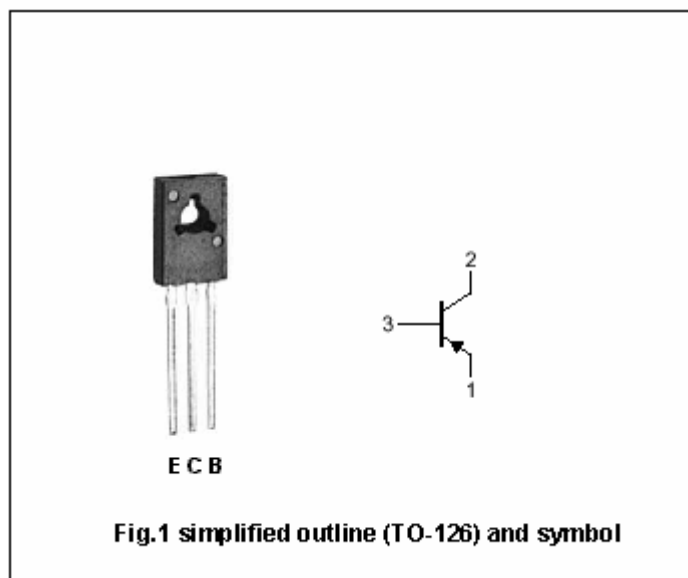
- With TO-126 package
- Complement to type 2SD1691
- Low saturation voltage
- Large current
- High total power dissipation: $P_T=1.3W$
- Large current capability and wide SOA

APPLICATIONS

- DC-DC converter
- Driver of solenoid or motor

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-60	V
V_{EBO}	Emitter-base voltage	Open collector	-7	V
I_C	Collector current (DC)		-5	A
I_{CM}	Collector current-Peak		-8	A
I_B	Base current		-1	A
P_D	Total power dissipation	$T_a=25$	1.3	W
		$T_C=25$	20	
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 _{CEsat}	Collector-emitter saturation voltage	I _C =-2.0A ; I _B =-0.2A			-0.3	V
V _{BEsat}	Base-emitter saturation voltage	I _C =-2.0A ; I _B =-0.2A			-1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =-50V; I _E =0			-10	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =-7V; I _C =0			-10	μ A
h _{FE-1}	DC current gain	I _C =-0.1A ; V _{CE} =-1V	60			
h _{FE-2}	DC current gain	I _C =-2A ; V _{CE} =-1V	100		400	
h _{FE-3}	DC current gain	I _C =-5A ; V _{CE} =-2V	50			

Switching times

t _{on}	Turn-on time	I _C =-2A; I _{B1} =-I _{B2} =-0.2A R _L =5.0Ω; V _{CC} ≈ 10V		0.15	1.0	μ s
t _{stg}	Storage time			0.78	2.5	μ s
t _f	Fall time			0.18	1.0	μ s

◆ h_{FE-2} Classifications

M	L	K
100-200	160-320	200-400

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PACKAGE OUTLINE

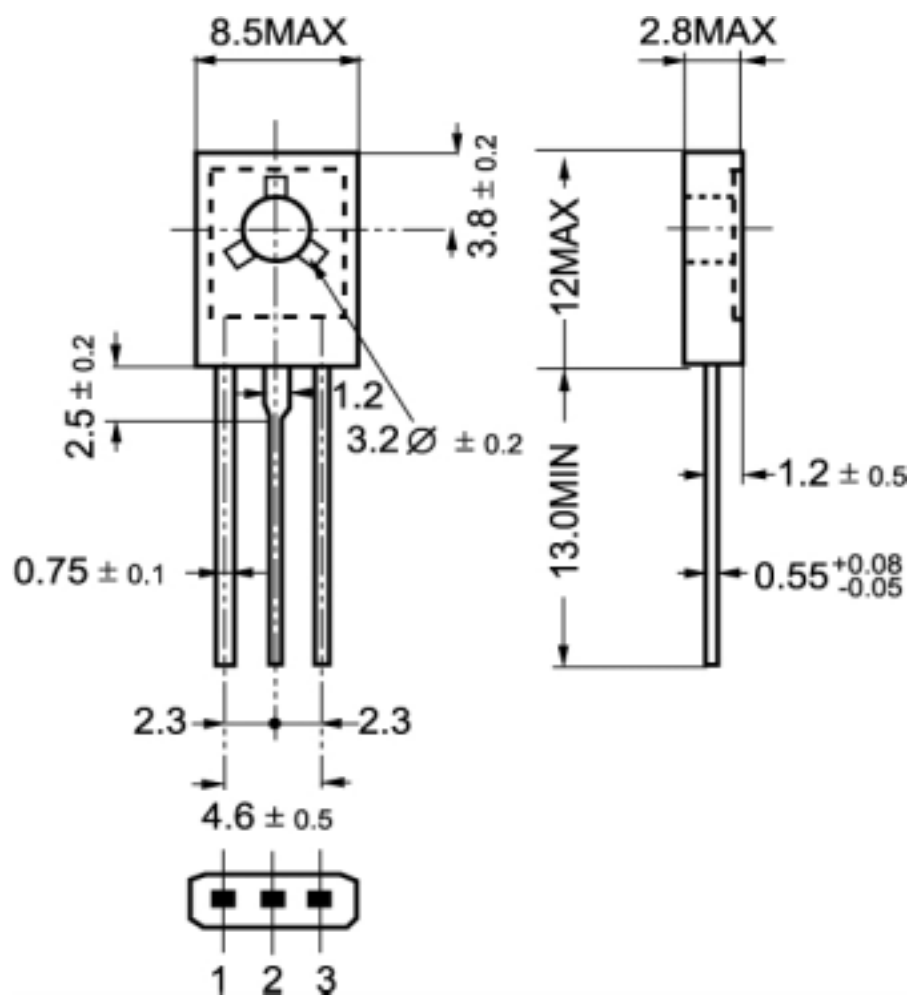


Fig.2 Outline dimensions

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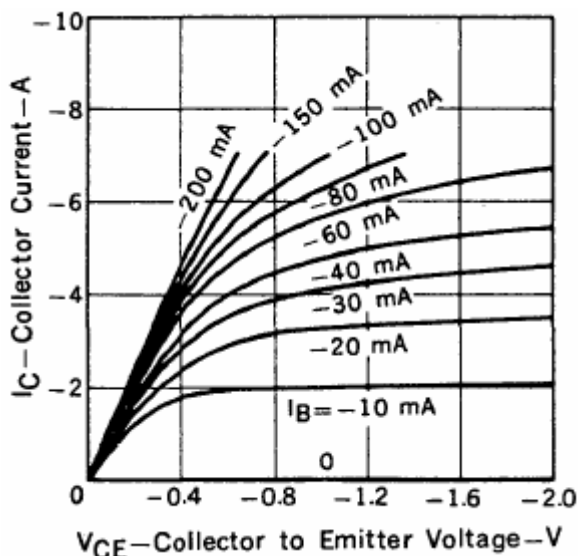


Fig.3 Static Characteristic

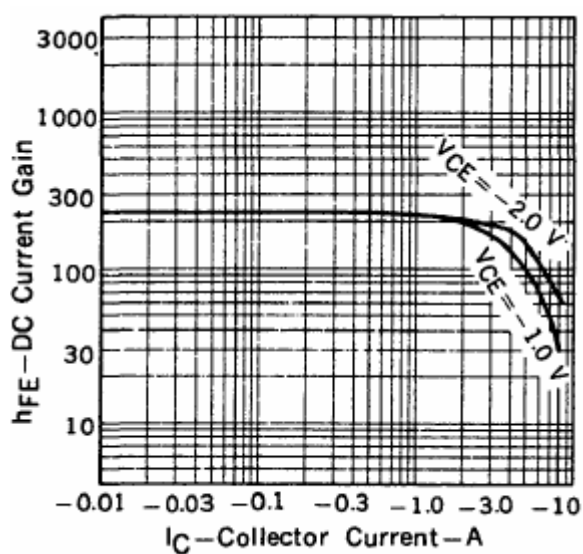


Fig.4 DC current Gain

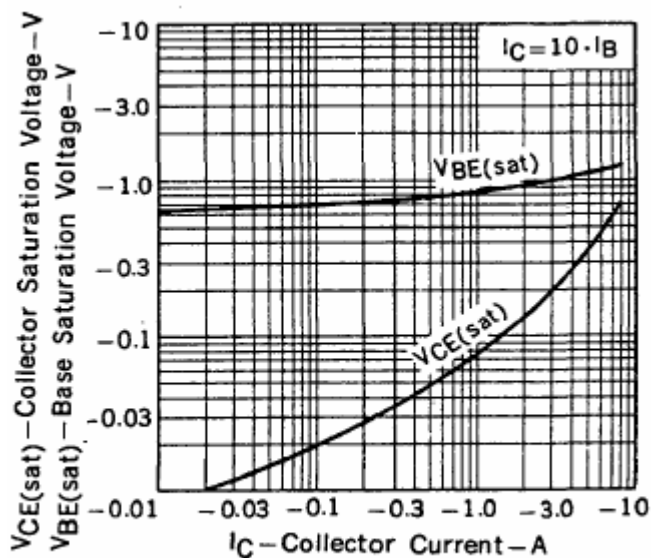
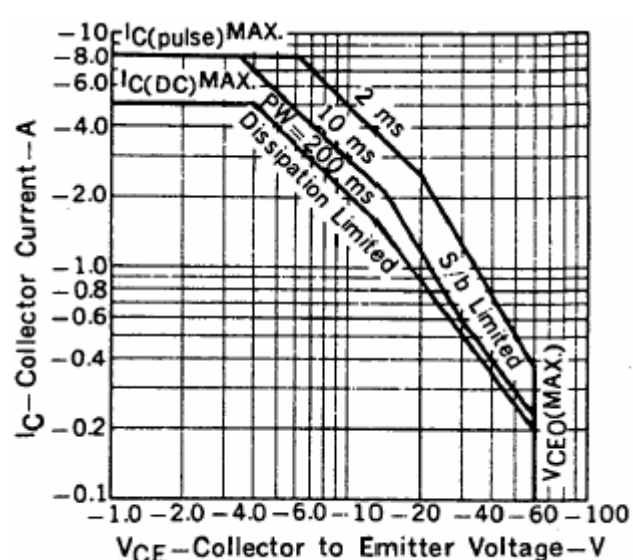
Fig.5 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Fig.6 Safe Operating Area