

Silicon NPN Power Transistors

2SD1691

DESCRIPTION

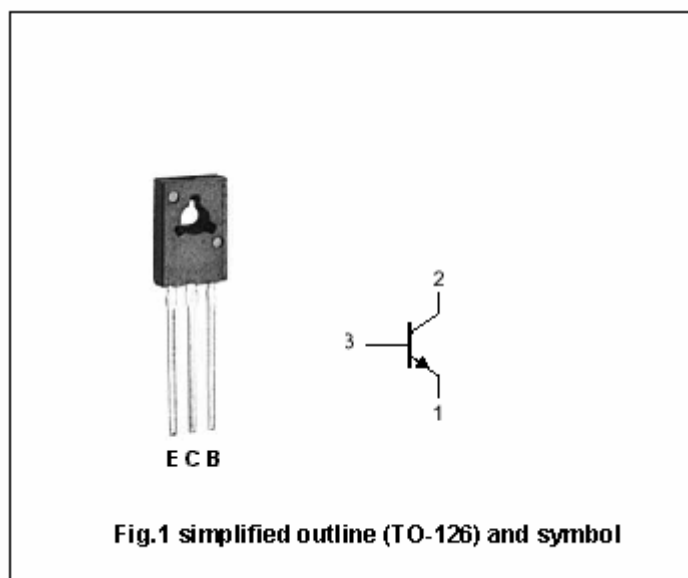
- With TO-126 package
- Complement to type 2SB1151
- Low saturation voltage
- High total power dissipation: $P_T=1.3W$
- Large current capability and wide SOA

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	$T_a=25^\circ\text{C}$	1.3	W
		$T_c=25^\circ\text{C}$	20	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C 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	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V$; $I_C=0$			10	μA
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	$I_C=5A$; $V_{CE}=1V$	50			
t_{on}	Turn-on time	$I_C=2A$; $I_{B1}=-I_{B2}=0.2A$ $R_L=5.0\Omega$; $V_{CC}\approx 10V$		0.2	1.0	μs
t_{stg}	Storage time			1.1	2.5	μs
t_f	Fall time			0.2	1.0	μs

◆ h_{FE-2} Classifications

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

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PACKAGE OUTLINE

