

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SD834**

**DESCRIPTION**

- With TO-220 package
- High DC current gain
- DARLINGTON
- Low collector saturation voltage
- Excellent safe operating area

**APPLICATIONS**

- Electronic ignitor
- Relay and solenoid drivers
- Switching regulators
- Motor controls

**PINNING**

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

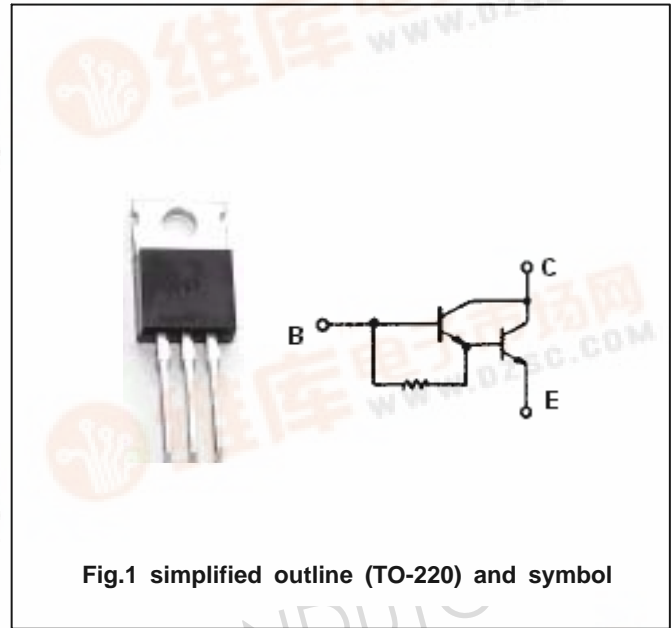


Fig.1 simplified outline (TO-220) and symbol

**Absolute maximum ratings (Ta=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	250	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	200	V
V <sub>CEO(SUS)</sub>	Collector-emitter voltage		180	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	10	V
I <sub>C</sub>	Collector current-continuous		4	A
I <sub>B</sub>	Base current		0.3	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	25	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-55~150	

**THERMAL CHARACTERISTICS**

SYMBOL	CHARACTERISTICS	MAX	UNIT
R <sub>jc</sub>	Thermal resistance junction to case	5.0	/W

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0	180			V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =10mA ; I <sub>B</sub> =0	200			V
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =0.1mA ; I <sub>E</sub> =0	250			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =10mA ; I <sub>C</sub> =0	10			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A;I <sub>B</sub> =2mA			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A;I <sub>B</sub> =2mA			2.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =250V; I <sub>E</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =10V; I <sub>C</sub> =0			10	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =2V	1500			
Switching times						
t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2A;I <sub>B1</sub> =-I <sub>B2</sub> =5mA; R <sub>L</sub> =10 PW=20 μ s;Duty 2%			1.7	μ s
t <sub>s</sub>	Storage time				15.0	μ s
t <sub>f</sub>	Fall time				18.0	μ s

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PACKAGE OUTLINE

