

**Inchange Semiconductor**

**Product Specification**

**Silicon NPN Power Transistors**

**2SD1115K**

**DESCRIPTION**

- With TO-220 package
- DARLINGTON

**APPLICATIONS**

- For high voltage switching and ignitor applications

**PINNING**

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

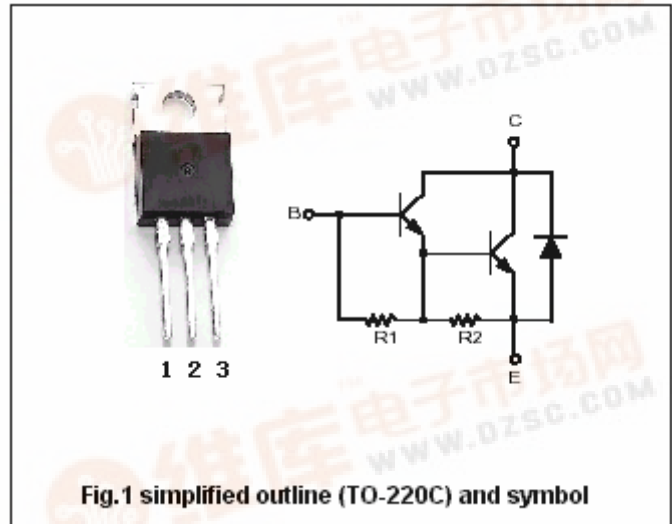


Fig.1 simplified outline (TO-220C) and symbol

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	400	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	300	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		3	A
I <sub>CM</sub>	Collector current-Peak		6	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	40	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

## Silicon NPN Power Transistors

## 2SD1115K

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =2A ; PW=50 μ s f=50Hz, L=10mH	300			V
V <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> =0.1A , I <sub>E</sub> =0	400			V
V <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50mA ; I <sub>C</sub> =0	7			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =20mA			1.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =20mA			2.0	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =300V ; R <sub>BE</sub> =∞			0.1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =2V	500			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2A ; I <sub>B1</sub> =- I <sub>B2</sub> =20mA		1.0		μ s
t <sub>off</sub>	Turn-off time			22		μ s

Silicon NPN Power Transistors

2SD1115K

PACKAGE OUTLINE

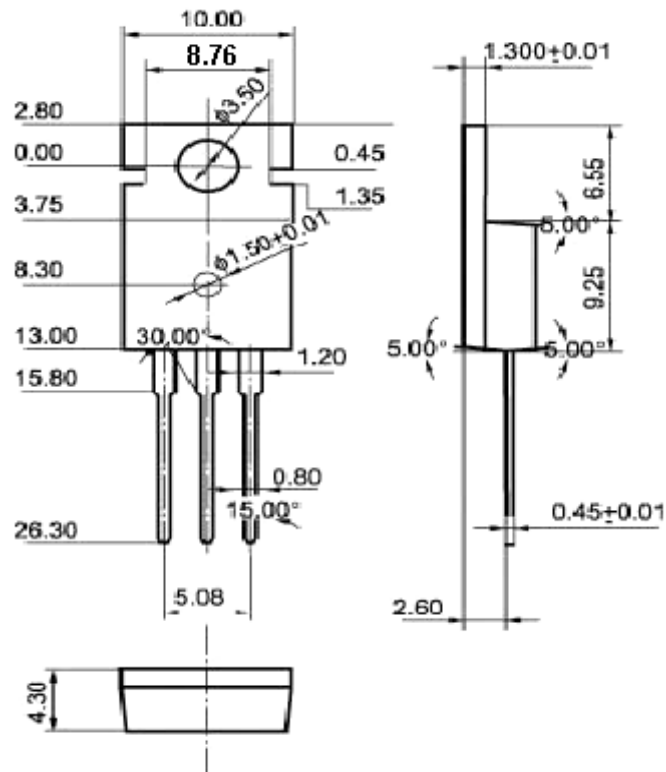


Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)