

Silicon NPN Power Transistors

2SC3157

DESCRIPTION

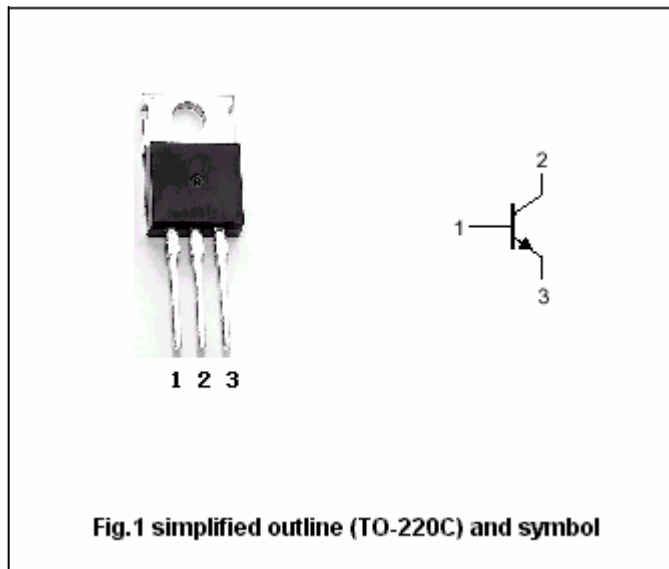
- With TO-220 package
- High switching speed
- Low collector saturation voltage
- Complement to type 2SA1261

APPLICATIONS

- For high voltage ,high speed and power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	150	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	100	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		10	A
I <sub>CM</sub>	Collector current-Peak		20	A
I <sub>B</sub>	Base current		3.5	A
P <sub>T</sub>	Total power dissipation	T <sub>a</sub> =25°C	1.5	W
		T <sub>C</sub> =25°C	60	
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## 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> =5A ; I <sub>B1</sub> =0.5A; L=1mH	100			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			0.6	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =0.5A			1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =100V; I <sub>E</sub> =0			0.01	mA
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =100V; V <sub>BE</sub> =1.5V T <sub>a</sub> =125°C			0.01 1.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			0.01	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V	40			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =5V	40		200	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =5V	20			

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =5A; I <sub>B1</sub> =-I <sub>B2</sub> =0.5A , R <sub>L</sub> =10Ω; V <sub>CC</sub> ≈50V			0.5	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.5	μs

◆ h<sub>FE-2</sub> classifications

M	L	K
40-80	60-120	100-200

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PACKAGE OUTLINE

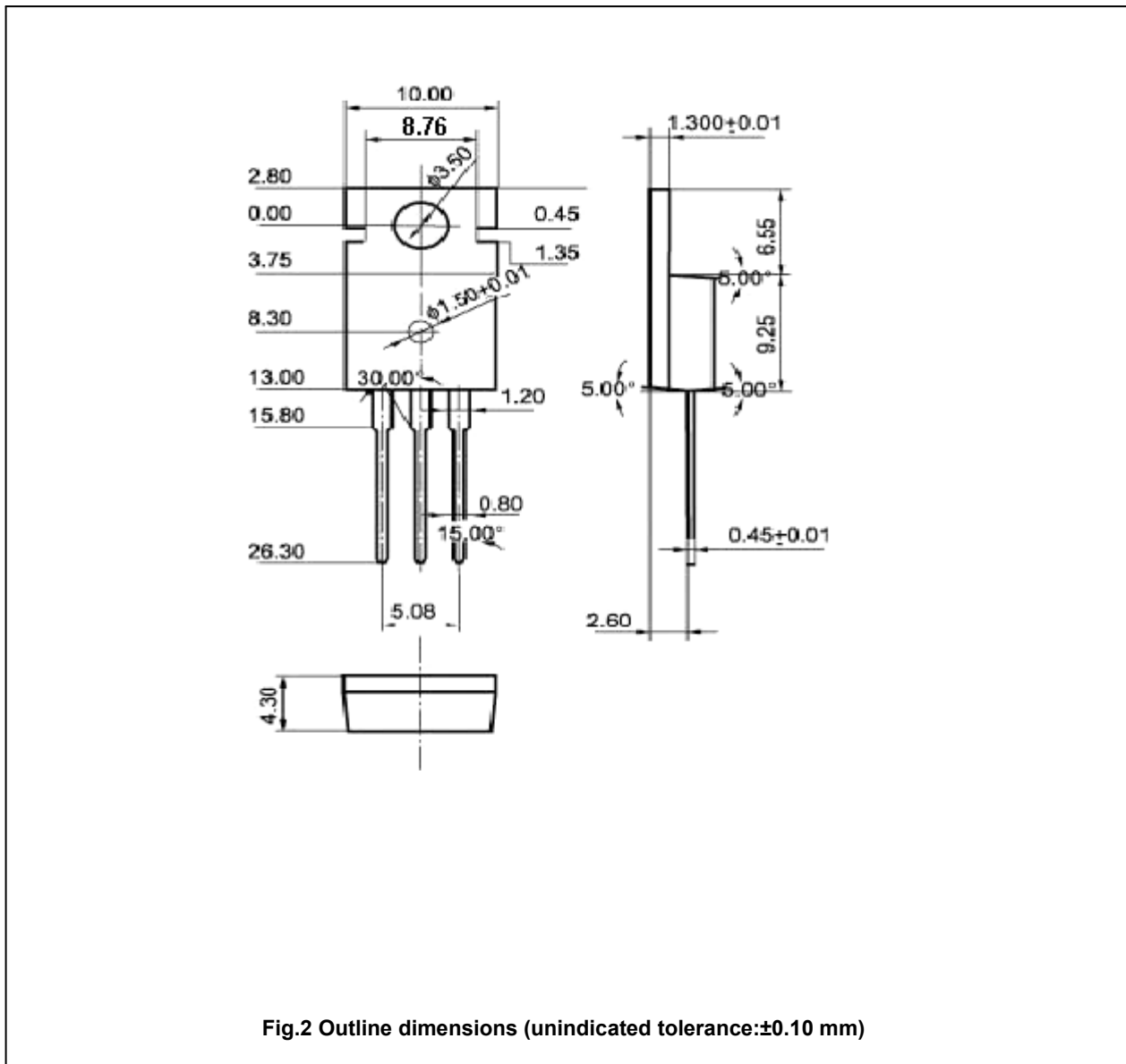


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)