

**Silicon NPN Power Transistors**

**2SD1275 2SD1275A**

**DESCRIPTION**

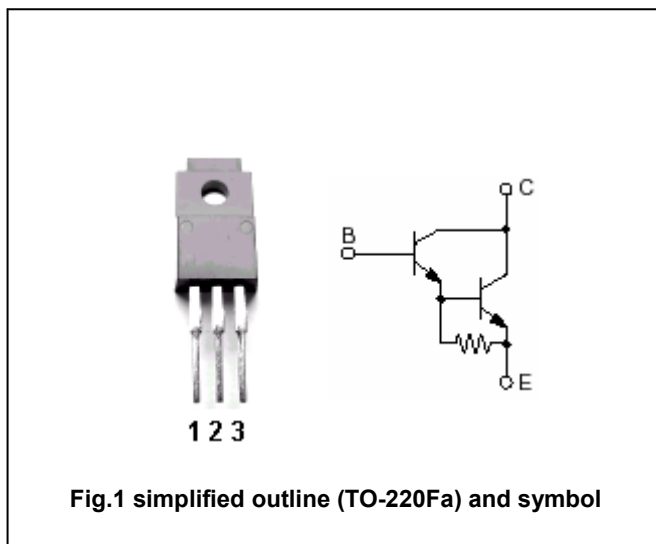
- With TO-220Fa package
- Complement to type 2SB949/949A
- High DC current gain
- High-speed switching

**APPLICATIONS**

- For power amplification

**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	2SD1275	60	V
		2SD1275A	80	
V <sub>CEO</sub>	Collector-emitter voltage	2SD1275	60	V
		2SD1275A	80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		2	A
I <sub>CM</sub>	Collector current-Peak		4	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	35	W
		T <sub>a</sub> =25°C	2	
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

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## 2SD1275 2SD1275A

## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	2SD1275	I <sub>C</sub> =30mA, I <sub>B</sub> =0	60			V
		2SD1275A		80			
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =2A; I <sub>B</sub> =8mA			2.5	V
V <sub>BE</sub>	Base-emitter voltage		V <sub>CE</sub> =4V; I <sub>C</sub> =2A			2.8	V
I <sub>CBO</sub>	Collector cut-off current	2SD1275	V <sub>CB</sub> =60V; I <sub>E</sub> =0			1.0	mA
		2SD1275A	V <sub>CB</sub> =80V; I <sub>E</sub> =0				
I <sub>CEO</sub>	Collector cut-off current	2SD1275	V <sub>CE</sub> =30V; I <sub>B</sub> =0			2.0	mA
		2SD1275A	V <sub>CE</sub> =40V; I <sub>B</sub> =0				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			2.0	mA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =1A; V <sub>CE</sub> =4V	1000			
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =2A; V <sub>CE</sub> =4V	2000		10000	
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.5A; V <sub>CE</sub> =10V; f=1MHz		20		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2A; I <sub>B1</sub> =8mA I <sub>B2</sub> =-8mA; V <sub>CC</sub> =50V		0.5		μs
t <sub>s</sub>	Storage time			4.0		μs
t <sub>f</sub>	Fall time			1.0		μs

◆ h<sub>FE-2</sub> Classifications

Q	R
2000-5000	4000-10000

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PACKAGE OUTLINE

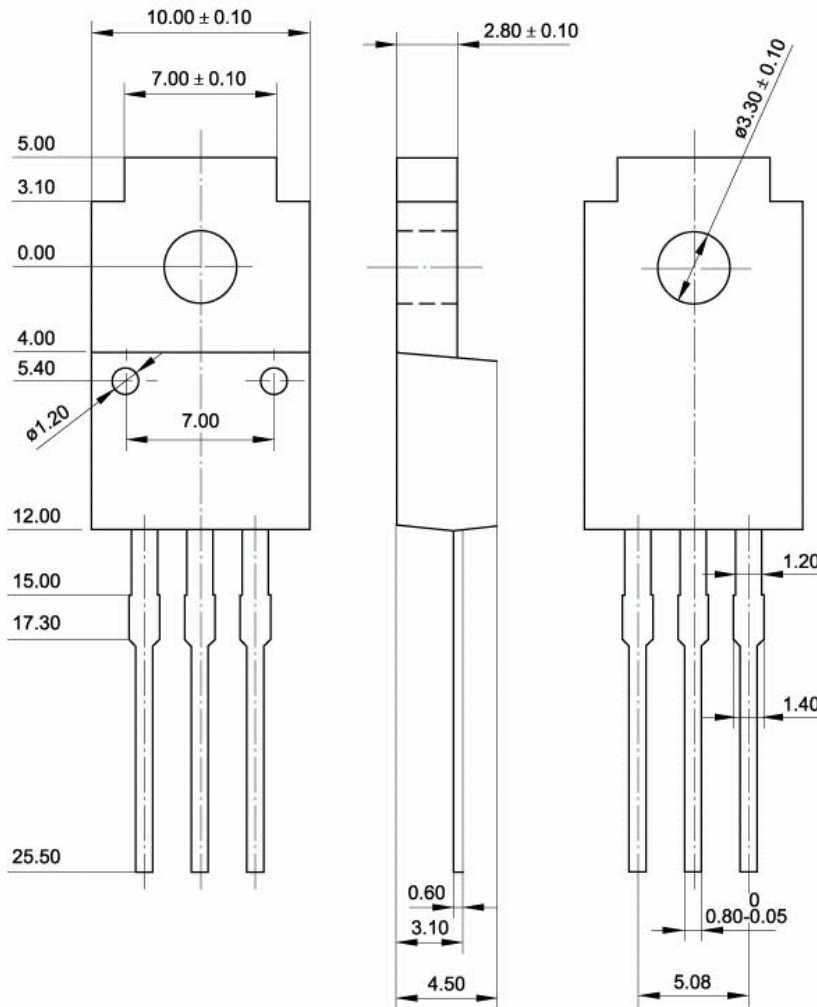


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)