

Inchange Semiconductor

Product Specification

Silicon NPN Power Transistors

2SD2374 2SD2374A

DESCRIPTION

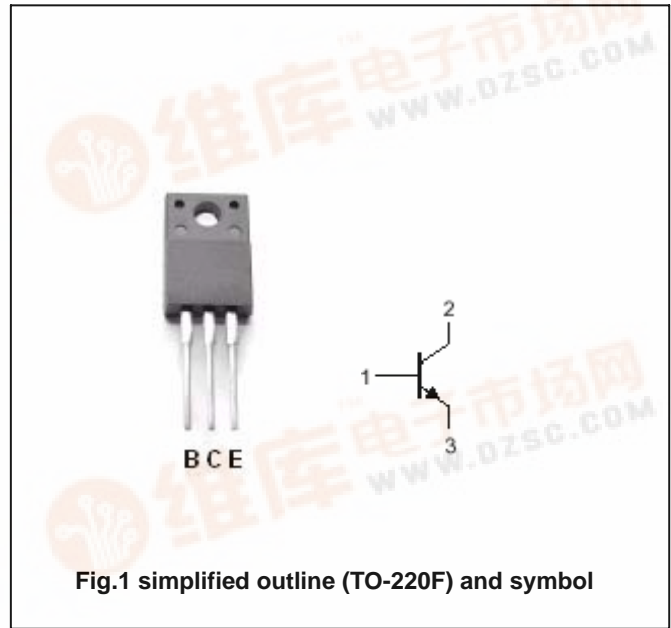
- With TO-220F package
- Complement to type 2SB1548/1548A
- Low collector saturation voltage
- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity

APPLICATIONS

- For power amplifications

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	2SD2374	60	V
			2SD2374A	80	
V <sub>CEO</sub>	Collector-emitter voltage	Open base	2SD2374	60	V
			2SD2374A	80	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V	
I <sub>C</sub>	Collector current		3	A	
I <sub>CM</sub>	Collector current-peak		5	A	
P <sub>C</sub>	Collector dissipation	T <sub>a</sub> =25°C	2	W	
		T <sub>c</sub> =25°C	25		
T <sub>j</sub>	Junction temperature		150	°C	
T <sub>stg</sub>	Storage temperature		-55~150	°C	

## Silicon NPN Power Transistors

## 2SD2374 2SD2374A

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>CEO</sub>	Collector-emitter voltage	2SD2374	I <sub>C</sub> =30mA ; I <sub>B</sub> =0	60			V
		2SD2374A		80			
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3A ; I <sub>B</sub> =0.375A			1.2	V	
V <sub>BE</sub>	Base-emitter voltage	I <sub>C</sub> =3A ; V <sub>CE</sub> =4V			1.8	V	
I <sub>CBO</sub>	Collector cut-off current	2SD2374			200	μ A	
		2SD2374A					V <sub>CB</sub> =60V; I <sub>E</sub> =0
I <sub>CEO</sub>	Collector cut-off current	2SD2374			300	μ A	
		2SD2374A					V <sub>CE</sub> =30V; I <sub>B</sub> =0
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =6V; I <sub>C</sub> =0			1	mA	
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =4V	70		250		
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =4V	10				
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V		30		MHz	

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1.0A; I <sub>B1</sub> =-I <sub>B2</sub> =0.1A V <sub>CC</sub> =50V		0.5		μ s
t <sub>s</sub>	Storage time			2.5		μ s
t <sub>f</sub>	Fall time			0.4		μ s

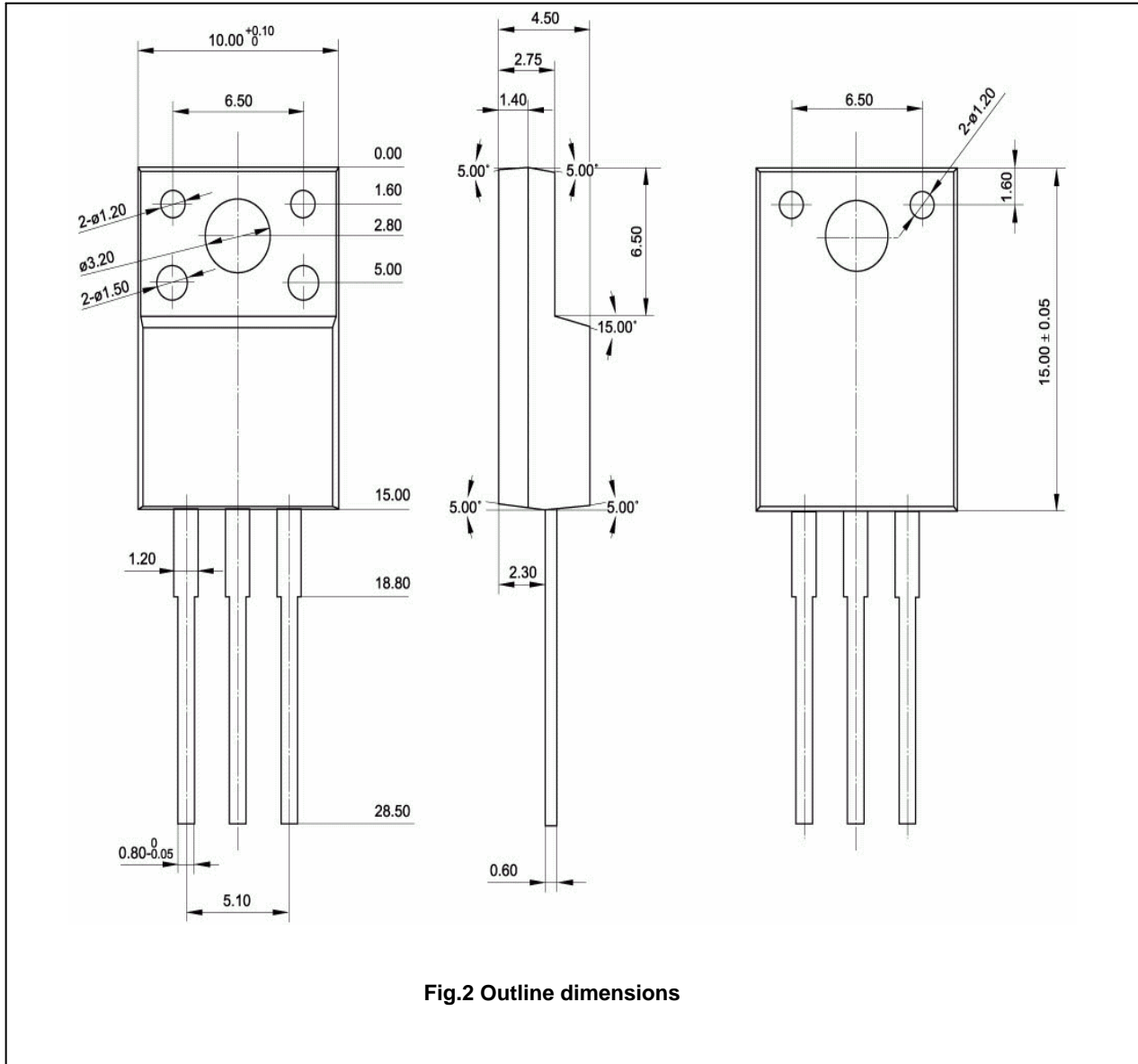
◆ h<sub>FE-1</sub> Classifications

Q	P
70-150	120-250

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PACKAGE OUTLINE



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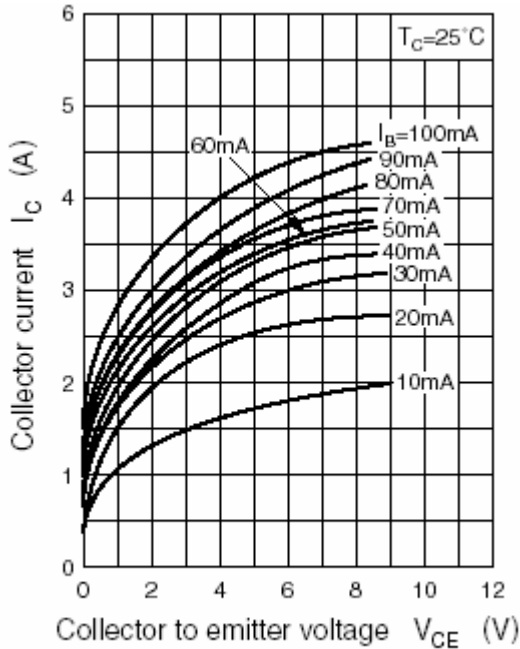


Fig.3 Static Characteristic

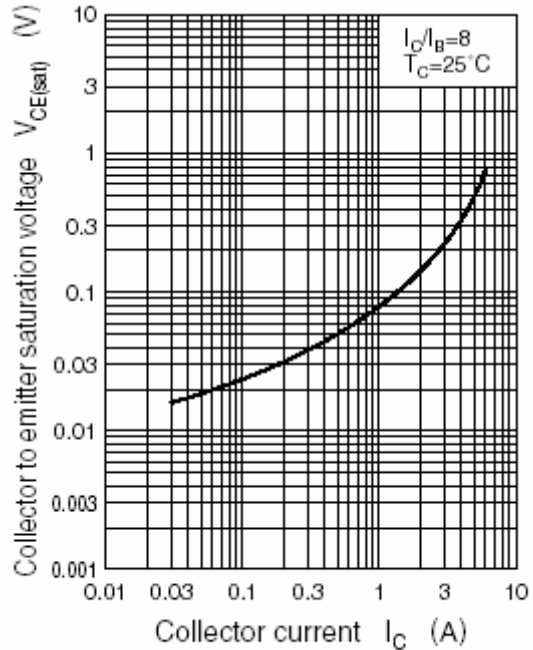


Fig.4 Collector-Emitter Saturation Voltage

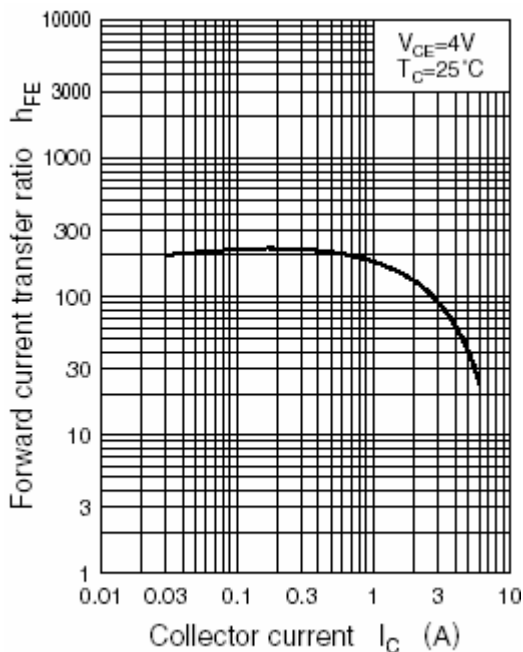


Fig.5 DC current Gain

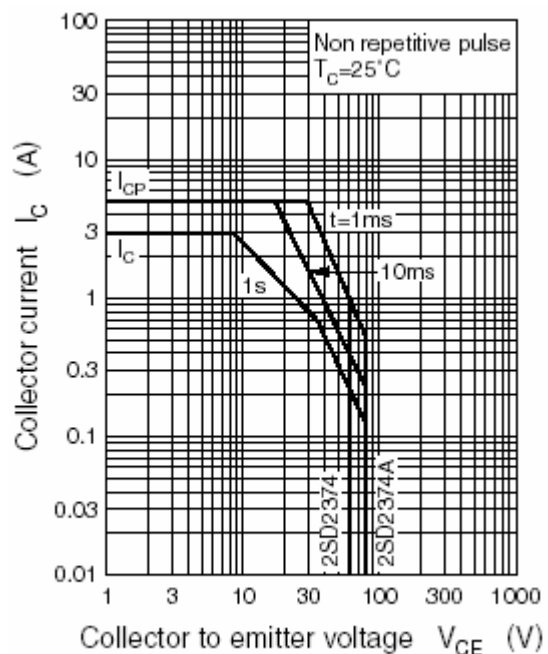


Fig.6 Safe Operating Area