

**Silicon NPN Power Transistors**

**2SC1398 2SC1398A**

**DESCRIPTION**

- With TO-220 package
- 2SC1398 is complement to type 2SA748
- Large collector power dissipation

**APPLICATIONS**

- For medium power amplifier applications

**PINNING**

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

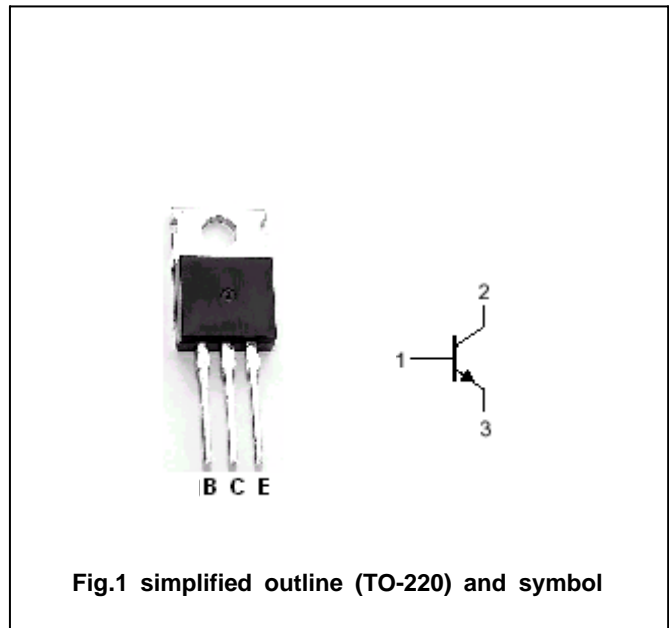


Fig.1 simplified outline (TO-220) and symbol

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	70	V
$V_{CEO}$	Collector-emitter voltage	2SC1398	50	V
		2SC1398A	70	
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current		2	A
$I_{CM}$	Collector current-peak		3	A
$P_C$	Collector power dissipation	$T_C=25^\circ C$	15	W
$T_j$	Junction temperature		150	°C
$T_{stg}$	Storage temperature		-55~150	°C

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## 2SC1398 2SC1398A

## 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	2SC1398	I <sub>C</sub> =10mA, I <sub>B</sub> =0	50			V
		2SC1398A		70			
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage		I <sub>C</sub> =1mA, I <sub>E</sub> =0	70			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =1A; I <sub>B</sub> =0.1A		0.6	1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =2A; I <sub>B</sub> =0.2A		1.0	1.5	V
I <sub>CBO</sub>	Collector cut-off current		V <sub>CB</sub> =40V; I <sub>E</sub> =0			1	μ A
I <sub>CEO</sub>	Collector cut-off current		V <sub>CE</sub> =20V; I <sub>C</sub> =0			100	μ A
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			100	μ A
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V	30			
h <sub>FE-2</sub>	DC current gain	2SC1398	I <sub>C</sub> =1A; V <sub>CE</sub> =5V	50		220	
		2SC1398A		50		160	
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V		120		MHz

◆ h<sub>FE-2</sub> Classifications

Type No.	P	Q	R
2SC1398	50-100	80-160	120-220
2SC1398A	50-100	80-160	

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PACKAGE OUTLINE

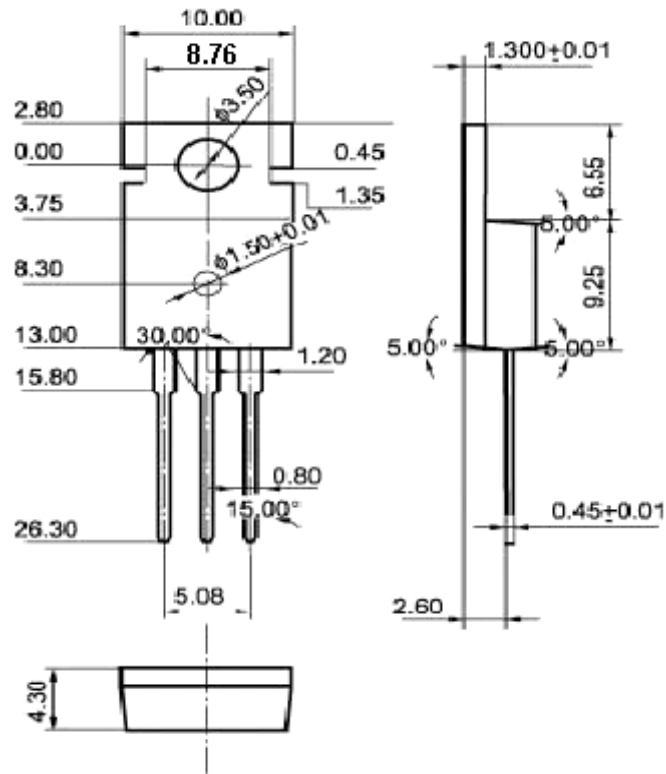


Fig.2 Outline dimensions(unindicated tolerance:  $\pm 0.10$  mm)