

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

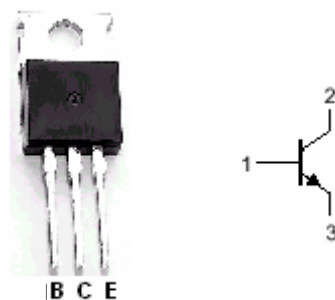


Fig.1 simplified outline (TO-220) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage		Open emitter	70	V
V_{CEO}	Collector-emitter voltage	2SC1398	Open base	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		$T_C=25^\circ\text{C}$	15	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-55~150	$^\circ\text{C}$

Silicon NPN Power Transistors

2SC1398 2SC1398A

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	2SC1398	$I_C=10mA, I_B=0$	50			V
		2SC1398A		70			
$V_{(BR)CBO}$	Collector-base breakdown voltage		$I_C=1mA, I_E=0$	70			V
V_{CEsat}	Collector-emitter saturation voltage		$I_C=1A; I_B=0.1A$		0.6	1.0	V
V_{BEsat}	Base-emitter saturation voltage		$I_C=2A; I_B=0.2A$		1.0	1.5	V
I_{CBO}	Collector cut-off current		$V_{CB}=40V; I_E=0$			1	μA
I_{CEO}	Collector cut-off current		$V_{CE}=20V; I_C=0$			100	μA
I_{EBO}	Emitter cut-off current		$V_{EB}=5V; I_C=0$			100	μA
h_{FE-1}	DC current gain		$I_C=0.1A; V_{CE}=5V$	30			
h_{FE-2}	DC current gain	2SC1398	$I_C=1A; V_{CE}=5V$	50		220	
		2SC1398A		50		160	
f_T	Transition frequency		$I_C=0.5A; V_{CE}=5V$		120		MHz

◆ h_{FE-2} Classifications

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

Silicon NPN Power Transistors

2SC1398 2SC1398A

PACKAGE OUTLINE



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