

Silicon NPN Power Transistors

2SD2401

DESCRIPTION

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- With MT-200 package
- Complement to type 2SB1570
- DARLINGTON

APPLICATIONS

- Audio, series regulator and general purpose applications

PINNING(see Fig.2)

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

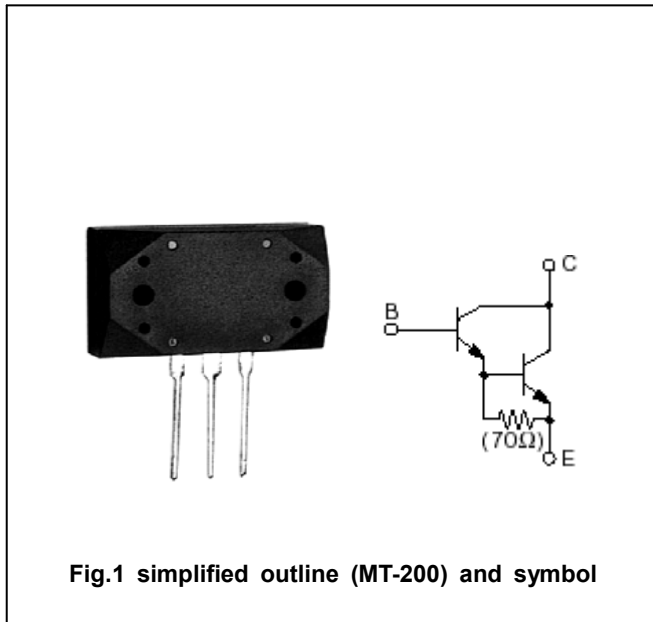


Fig.1 simplified outline (MT-200) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	160	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	150	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	5	V
I <sub>C</sub>	Collector current		12	A
I <sub>B</sub>	Base current		1	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	150	W
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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =30mA; I <sub>B</sub> =0	150			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =7 A; I <sub>B</sub> =7m A			2.5	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =7 A; I <sub>B</sub> =7m A			3.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =160V; I <sub>E</sub> =0			100	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			100	μA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =7A ; V <sub>CE</sub> =4V	5000			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =2A ; V <sub>CE</sub> =12V		55		MHz
C <sub>OB</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =10V; f=1MHz		95		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =7A; R <sub>L</sub> =10Ω I <sub>B1</sub> =- I <sub>B2</sub> =7mA V <sub>CC</sub> =70V		0.5		μs
t <sub>s</sub>	Storage time			10.0		μs
t <sub>f</sub>	Fall time			1.1		μs

◆ h<sub>FE</sub> classifications

O	P	Y
5000-12000	6500-20000	15000-30000

PACKAGE OUTLINE

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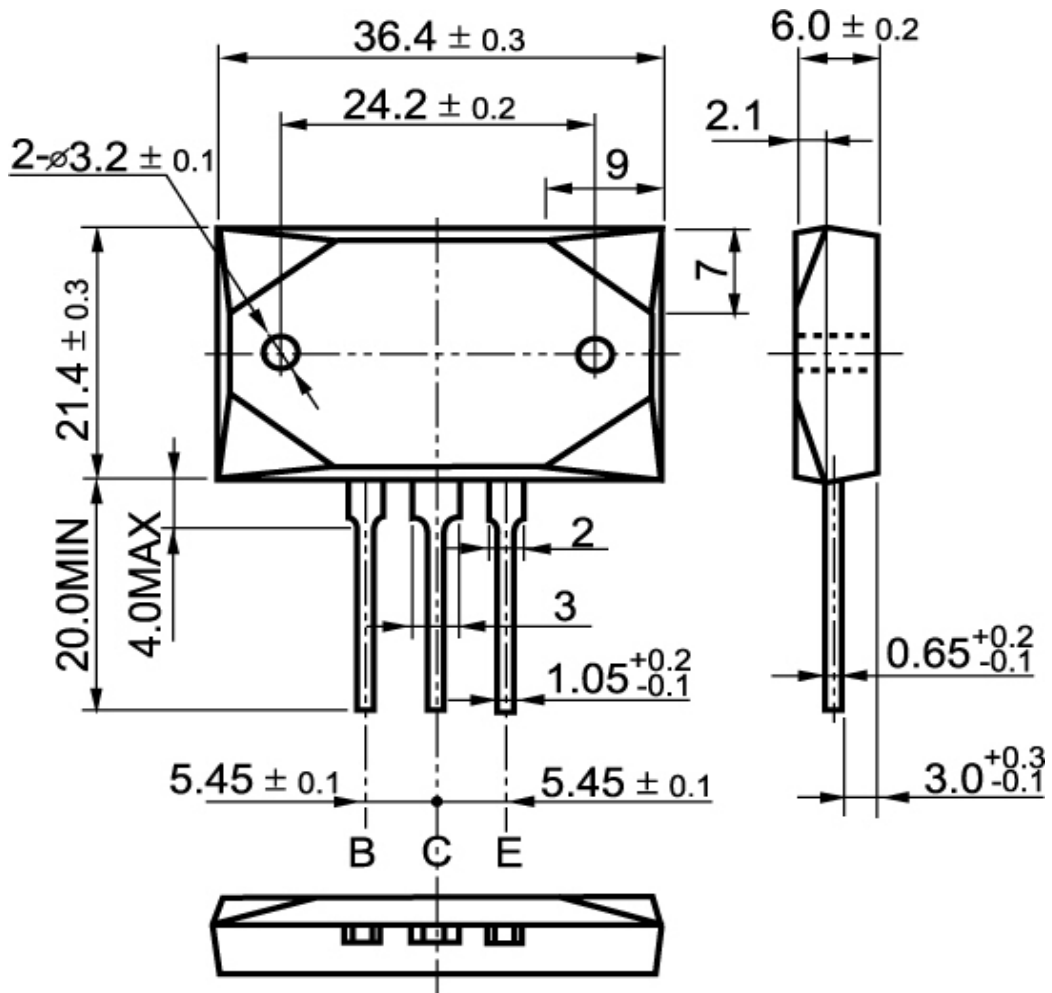


Fig.2 Outline dimensions