

TO-3P Plastic-Encapsulate Transistors

2SC5200 TRANSISTOR (NPN)

FEATURES

- High Collector Current Capability
- High Power Dissipation
- High Frequency
- High Voltage
- Complement to 2SA1943

APPLICATIONS

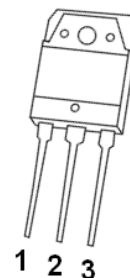
- High-Fidelity Audio Output Amplifier
- General Purpose Power Amplifier

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	230	V
V_{CEO}	Collector-Emitter Voltage	230	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	15	A
P_C	Collector Power Dissipation	3.5	W
P_{CM}	Collector Power Dissipation ($T_C=25^\circ\text{C}$)	150	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	36	$^\circ\text{C}/\text{W}$
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$

TO - 3P

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	230			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=50\text{mA}, I_B=0$	230			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=230\text{V}, I_E=0$			5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			5	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	55		160	
	$h_{FE(2)}^*$	$V_{CE}=5\text{V}, I_C=7\text{A}$	35			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=8\text{A}, I_B=0.8\text{A}$			3	V
Base-emitter voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=7\text{A}$			1.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		200		pF
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=1\text{A}$		30		MHz

*Pulse test

CLASSIFICATION OF $h_{FE(1)}$

RANK	R	O
RANGE	55-110	80-160