

## TO-3P Plastic-Encapsulate Transistors

### 2SC5198 TRANSISTOR (NPN)

#### FEATURES

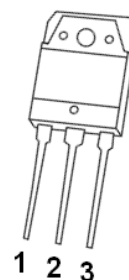
- Low Collector Saturation Voltage
- Good Linearity of  $h_{FE}$

#### APPLICATIONS

- Power Amplifier Applications
- Recommend for 70W High Fidelity Audio Frequency Amplifier Output Stage Applications

TO – 3P

1. BASE
2. COLLECTOR
3. EMITTER



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

| Symbol          | Parameter                                            | Value    | Unit                 |
|-----------------|------------------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                               | 140      | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                            | 140      | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                                 | 5        | V                    |
| $I_C$           | Collector Current                                    | 10       | A                    |
| $P_C$           | Collector Power Dissipation $T_C=25^{\circ}\text{C}$ | 100      | W                    |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient          | 36       | $^{\circ}\text{C/W}$ |
| $T_j$           | Junction Temperature                                 | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                                  | -55~+150 | $^{\circ}\text{C}$   |

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

| Parameter                            | Symbol        | Test conditions                           | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|-------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=1\text{mA}, I_E=0$                   | 140 |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=50\text{mA}, I_B=0$                  | 140 |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=1\text{mA}, I_C=0$                   | 5   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=140\text{V}, I_E=0$               |     |     | 5   | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5\text{V}, I_C=0$                 |     |     | 5   | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=5\text{V}, I_C=1\text{A}$         | 55  |     | 160 |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=5\text{V}, I_C=5\text{A}$         | 35  |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=7\text{A}, I_B=0.7\text{A}$          |     |     | 2   | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE}=5\text{V}, I_C=5\text{A}$         |     |     | 1.5 | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ |     | 170 |     | pF            |
| Transition frequency                 | $f_T$         | $V_{CE}=5\text{V}, I_C=1\text{A}$         |     | 30  |     | MHz           |

#### CLASSIFICATION OF $h_{FE(1)}$

| RANK  | R      | O      |
|-------|--------|--------|
| RANGE | 55-110 | 80-160 |

[www.cj-elec.com](http://www.cj-elec.com)

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