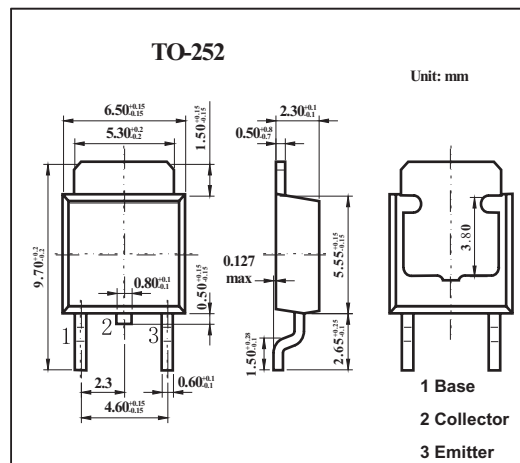


# 2SD1220

■ Features

- Power Amplifier Applications



■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

| Parameter  | Symbol    | Rating      | Unit             |
|--|-----------|-------------|------------------|
| Collector-base voltage   | $V_{CBO}$ | 150         | V                |
| Collector-emitter voltage  | $V_{CEO}$ | 150         | V                |
| Emitter-base voltage   | $V_{EBO}$ | 6           | V                |
| Collector current  | $I_C$     | 1.5         | A                |
| Base current   | $I_B$     | 1           | A                |
| Collector power dissipation $T_a = 25^\circ\text{C}$<br>$T_c = 25^\circ\text{C}$ | $P_C$     | 1<br>10     | W                |
| Junction temperature   | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature range  | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$

| Parameter                            | Symbol        | Test conditions                                   | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 150\text{ V}, I_E = 0$                  |     |     | 1.0 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 6\text{ V}, I_C = 0$                    |     |     | 1.0 | $\mu\text{A}$ |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = 10\text{ mA}, I_B = 0$                     | 150 |     |     | V             |
| DC current gain                      | $h_{FE}$      | $V_{CE} = 5\text{ V}, I_C = 200\text{ mA}$        | 60  |     | 320 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500\text{ mA}, I_B = 50\text{ mA}$         |     |     | 1.5 | V             |
| Base-emitter voltage                 | $V_{BE}$      | $V_{CE} = 5\text{ V}, I_C = 5\text{ mA}$          | 0.5 |     | 0.8 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = 5\text{ V}, I_C = 200\text{ mA}$        | 20  | 100 |     | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ |     | 13  | 20  | pF            |

■  $h_{FE}$  Classification

| Marking  | D1220     |            |            |
|----------|-----------|------------|------------|
| Rank     | R         | O          | Y          |
| $h_{FE}$ | 60 to 120 | 100 to 200 | 160 to 320 |