

## TO-126C Plastic-Encapsulate Transistors

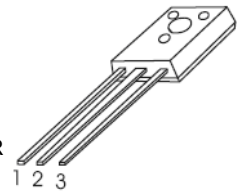
**2SD886** TRANSISTOR (NPN)

### FEATURES

- General Purpose Amplifier Transistor

### TO - 126C

1. EMITTER
2. COLLECTOR
3. BASE



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

| Symbol          | Parameter                                   | Value    | Unit                 |
|-----------------|---------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | 50       | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                   | 50       | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                        | 5        | V                    |
| $I_C$           | Collector Current                           | 3        | A                    |
| $P_C$           | Collector Power Dissipation                 | 1        | W                    |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 125      | $^{\circ}\text{C/W}$ |
| $T_j$           | 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     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$               | 50  |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=5\text{mA}, I_B=0$                   | 50  |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$               | 5   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=50\text{V}, I_E=0$                |     |     | 1   | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=3\text{V}, I_C=0$                 |     |     | 1   | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=2\text{V}, I_C=20\text{mA}$       | 100 |     |     |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=2\text{V}, I_C=1\text{A}$         | 100 |     | 400 |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=2\text{A}, I_B=200\text{mA}$         |     |     | 0.5 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=2\text{A}, I_B=200\text{mA}$         |     |     | 2   | V             |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ |     | 45  |     | pF            |
| Transition frequency                 | $f_T$         | $V_{CE}=5\text{V}, I_C=100\text{mA}$      |     | 80  |     | MHz           |

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycles  $\leq 2.0\%$ .