



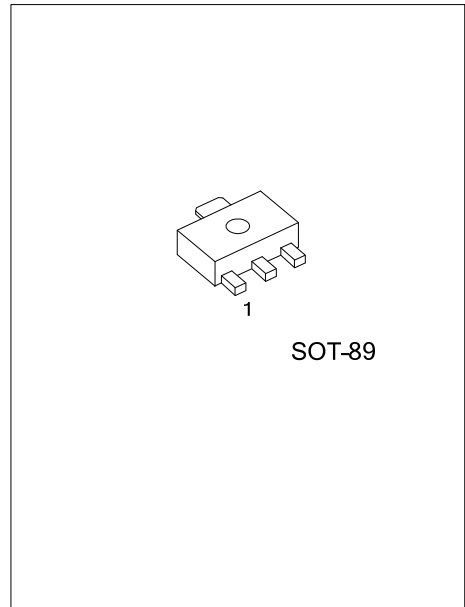
**2SD1898**

**NPN SILICON TRANSISTOR**

**POWER TRANSISTOR**

■ **FEATURES**

- \*High  $V_{CE0} = 80V$
- \*High  $I_C = 1A$  (DC)
- \*Good  $h_{FE}$  linearity.
- \*Low  $V_{CE(SAT)}$
- \*Complements the 2SB1260.



■ **ORDERING INFORMATION**

| Ordering Number  |                  | Package | Pin Assignment |   |   | Packing   |
|------------------|------------------|---------|----------------|---|---|-----------|
| Lead Free        | Halogen Free     |         | 1              | 2 | 3 |           |
| 2SD1898L-x-AB3-R | 2SD1898G-x-AB3-R | SOT-89  | B              | C | E | Tape Reel |

Note: Pin Assignment: B: Base C: Collector E: Emitter

|   |   |
|---|---|
| <p>2SD1898L-x-AB3-R</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Rank<br/>(4)Lead Free</p> | <p>(1) R: Tape Reel<br/>(2) AB3: SOT-89<br/>(3) x: refer to Classification of <math>h_{FE}</math><br/>(4) G: Halogen Free, L: Lead Free</p> |
|---|---|

■ ABSOLUTE MAXIMUM RATINGS (  $T_A=25^{\circ}\text{C}$ , unless otherwise specified )

| PARAMETER                            | SYMBOL    | RATING     | UNIT               |
|--------------------------------------|-----------|------------|--------------------|
| Collector-Base Voltage               | $V_{CBO}$ | 100        | V                  |
| Collector-Emitter Voltage            | $V_{CEO}$ | 80         | V                  |
| Emitter-Base Voltage                 | $V_{EBO}$ | 5          | V                  |
| Collector Current(DC)                | $I_C$     | 1          | A                  |
| Collector Current(PULSE) (Note 2)    | $I_{CP}$  | 2          | A                  |
| Collector Power Dissipation (Note 3) | $P_c$     | 0.5        | W                  |
| Collector Power Dissipation (Note 3) | $P_c$     | 2          | W                  |
| Junction Temperature                 | $T_J$     | 150        | $^{\circ}\text{C}$ |
| Storage Temperature                  | $T_{STG}$ | -55 ~ +150 | $^{\circ}\text{C}$ |

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Duty=1/2, Pw=200ms
3. When mounted on a 40\*40\*0.7 mm ceramic board.

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

| PARAMETER                            | SYMBOL        | TEST CONDITIONS  | MIN | TYP  | MAX | UNIT          |
|--------------------------------------|---------------|--|-----|------|-----|---------------|
| Collector Base Breakdown Voltage     | $BV_{CBO}$    | $I_C=50\mu\text{A}$                                    | 100 |      |     | V             |
| Collector Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C=1\text{mA}$                                       | 80  |      |     | V             |
| Emitter Base Breakdown Voltage       | $BV_{EBO}$    | $I_E=50\mu\text{A}$                                    | 5   |      |     | V             |
| Collector Cut-Off Current            | $I_{CBO}$     | $V_{CB}=80\text{V}, I_E=0\text{A}$                     |     |      | 1   | $\mu\text{A}$ |
| Emitter Cut-Off Current              | $I_{EBO}$     | $V_{EB}=4\text{V}, I_C=0\text{A}$                      |     |      | 1   | $\mu\text{A}$ |
| DC Current Transfer Ratio            | $h_{FE}$      | $V_{CE}=3\text{V}, I_C=0.5\text{A}$                    | 82  |      | 390 |               |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=20\text{mA}$                    |     | 0.15 | 0.4 | V             |
| Transition Frequency                 | $f_T$         | $V_{CE}=10\text{V}, I_E=-50\text{mA}, f=100\text{MHz}$ |     | 100  |     | MHz           |
| Output Capacitance                   | $C_{OB}$      | $V_{CB}=10\text{V}, I_E=0\text{A}, f=1\text{MHz}$      |     | 20   |     | pF            |

■ CLASSIFICATION OF  $h_{FE}$

| RANK  | P      | Q       | R       |
|-------|--------|---------|---------|
| RANGE | 82-180 | 120-270 | 180-390 |

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