



## 2SC5006

PNP EPITAXIAL SILICON TRANSISTOR

### NPN SILICON EPITAXIAL TRANSISTOR

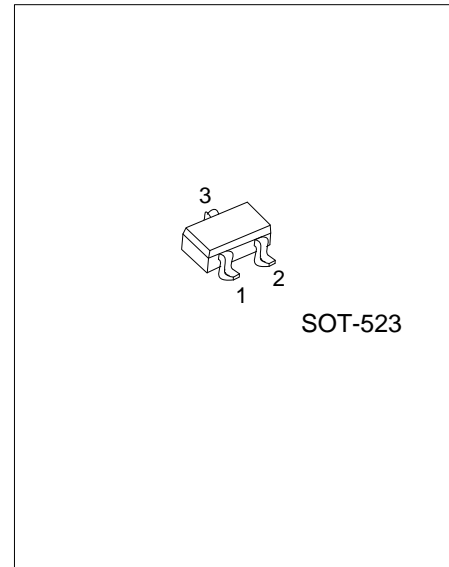
#### DESCRIPTION

The UTC **2SC5006** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low noise figure, high DC current gain and high current capability achieve a very wide dynamic range and excellent linearity.

The UTC **2SC5006** is suitable for low noise and small signal amplifiers from VHF band to UHF band.

#### FEATURES

- \* High DC current gain
- \* High current capability
- \* Low noise figure



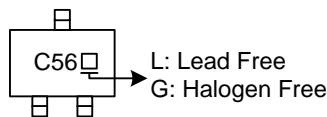
#### ORDERING INFORMATION

| Ordering Number |                | Package | Pin Assignment |   |   | Packing   |
|-----------------|----------------|---------|----------------|---|---|-----------|
| Lead Free       | Halogen-Free   |         | 1              | 2 | 3 |           |
| 2SC5006L-AN3-R  | 2SC5006G-AN3-R | SOT-523 | B              | E | C | Tape Reel |

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

|   |  |
|---|--|
| <p>2SC5006G-AN3-R</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Green Package</p> | <p>(1) R: Tape Reel<br/>(2) AN3: SOT-523<br/>(3) G: Halogen Free and Lead Free, L: Lead Free</p> |
|---|--|

#### MARKING



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

| PARAMETER                 | SYMBOL    | RATINGS    | UNIT             |
|---------------------------|-----------|------------|------------------|
| Collector-Base Voltage    | $V_{CBO}$ | 20         | V                |
| Collector-Emitter Voltage | $V_{CEO}$ | 12         | V                |
| Emitter-Base Voltage      | $V_{EBO}$ | 3.0        | V                |
| Collector Current         | $I_C$     | 100        | mA               |
| Total Power Dissipation   | $P_T$     | 125        | mW               |
| Junction Temperature      | $T_J$     | +150       | $^\circ\text{C}$ |
| Storage Temperature       | $T_{STG}$ | -60 ~ +150 | $^\circ\text{C}$ |

Note: 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.

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

| PARAMETER                 | SYMBOL    | TEST CONDITIONS                                     | MIN | TYP | MAX | UNIT          |
|---------------------------|-----------|---|-----|-----|-----|---------------|
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}=10\text{V}, I_E=0$                          |     |     | 1.0 | $\mu\text{A}$ |
| Emitter Cutoff Current    | $I_{EBO}$ | $V_{EB}=1\text{V}, I_C=0$                           |     |     | 1.0 | $\mu\text{A}$ |
| DC Current Gain           | $h_{FE}$  | $V_{CE}=3\text{V}, I_C=7\text{mA}$ (Note 1)         | 80  |     | 160 |               |
| Transition Frequency      | $f_T$     | $V_{CE}=3\text{V}, I_C=7\text{mA}, f=1\text{GHz}$   |     | 4.5 |     | GHz           |
| Feedback Capacitance      | $C_{re}$  | $V_{CB}=3\text{V}, I_E=0, f=1.0\text{MHz}$ (Note 2) |     | 0.7 |     | pF            |

Notes: 1. Pulse measurement  $P_w \leq 350\mu\text{s}$ , duty cycle  $\leq 2\%$ .

2. The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

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