



## UH11K

Preliminary

**NPN EPITAXIAL SILICON TRANSISTOR**

### DUAL BIAS RESISTOR TRANSISTORS

#### DESCRIPTION

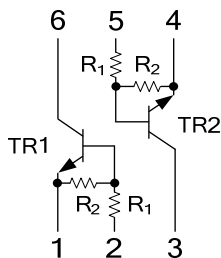
The UTC **UH11K** is a dual bias resistor transistors, it uses UTC's advanced technology to provide customers with saving board space, reducing component count, etc.

The UTC **UH11K** is suitable for low power surface mount applications, etc.

#### FEATURES

- \* Reducing component count
- \* Saving board space

#### EQUIVALENT CIRCUIT



#### ORDERING INFORMATION

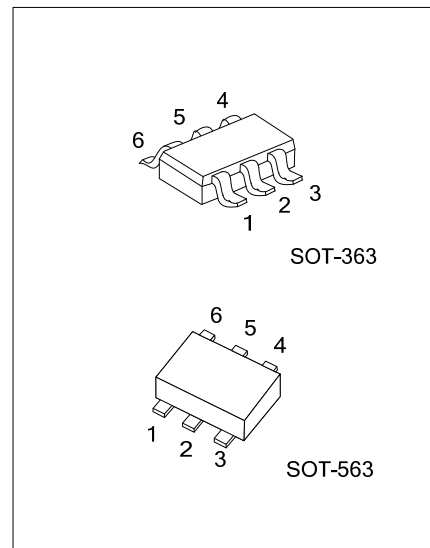
| Ordering Number | Package | Pin Assignment |    |    |    |    |    | Packing   |
|-----------------|---------|----------------|----|----|----|----|----|-----------|
|                 |         | 1              | 2  | 3  | 4  | 5  | 6  |           |
| UH11KG-AL6-R    | SOT-363 | E1             | B1 | C2 | E2 | B2 | C1 | Tape Reel |
| UH11KG-AN6-R    | SOT-563 | E1             | B1 | C2 | E2 | B2 | C1 | Tape Reel |

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

|              |                  |                                   |
|--------------|------------------|-----------------------------------|
| UH11KG-AL6-R | (1)Packing Type  | (1) R: Tape Reel                  |
|              | (2)Package Type  | (2) AL6: SOT-363, AN6: SOT-563    |
|              | (3)Green Package | (3) G: Halogen Free and Lead Free |

#### MARKING

| SOT-363 | SOT-563 |
|---------|---------|
|         |         |



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

| PARAMETER                 |         | SYMBOL    | RATINGS    | UNIT               |
|---------------------------|---------|-----------|------------|--------------------|
| Collector-Base Voltage    |         | $V_{CBO}$ | 50         | V                  |
| Collector-Emitter Voltage |         | $V_{CEO}$ | 50         | V                  |
| Collector Current         |         | $I_C$     | 100        | mA                 |
| Power Dissipation         | SOT-363 | $P_D$     | 150        | mW                 |
|                           | SOT-563 |           | 120        | mW                 |
| Junction Temperature      |         | $T_J$     | -55 ~ +150 | $^{\circ}\text{C}$ |
| Storage Temperature       |         | $T_{STG}$ | -55 ~ +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       |
|--|------------|---|-----|-----|-----|------------|
| <b>OFF CHARACTERISTICS</b>                   |            |   |     |     |     |            |
| Collector-Base Breakdown Voltage             | $BV_{CBO}$ | $I_C=10\mu\text{A}$ , $I_E=0$                                       | 50  |     |     | V          |
| Collector-Emitter Breakdown Voltage (Note 1) | $BV_{CEO}$ | $I_C=2.0\text{mA}$ , $I_B=0$  | 50  |     |     | V          |
| Collector-Base Cutoff Current                | $I_{CBO}$  | $V_{CB}=50\text{V}$ , $I_E=0$                                       |     |     | 100 | nA         |
| Collector-Emitter Cutoff Current             | $I_{CEO}$  | $V_{CE}=50\text{V}$ , $I_B=0$                                       |     |     | 500 | nA         |
| Emitter-Base Cutoff Current                  | $I_{EBO}$  | $V_{EB}=6.0\text{V}$ , $I_C=0$                                      |     |     | 0.5 | mA         |
| <b>ON CHARACTERISTICS (Note 2)</b>           |            |   |     |     |     |            |
| DC Current Gain                              | $h_{FE}$   | $V_{CE}=10\text{V}$ , $I_C=5.0\text{mA}$                            | 35  | 60  |     |            |
| Output Voltage (on)                          | $V_{OL}$   | $V_{CC}=5.0\text{V}$ , $V_B=2.5\text{V}$ , $R_L=1.0\text{ k}\Omega$ |     |     | 0.2 | V          |
| <b>ON CHARACTERISTICS (Note 2)</b>           |            |   |     |     |     |            |
| Input Resistor                               | $R_1$      |   | 7.0 | 10  | 13  | k $\Omega$ |
| Resistor Ratio                               | $R_1/R_2$  |   | 0.8 | 1.0 | 1.2 | k $\Omega$ |

Notes: 1. Pulse Test: Pulse Width<300 $\mu\text{s}$ , Duty Cycle<2.0%

2. Pulse Test: Pulse Width<300ms, Duty Cycle<2.0%

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.