



**2SB1017**

Preliminary

**PNP EPITAXIAL SILICON TRANSISTOR**

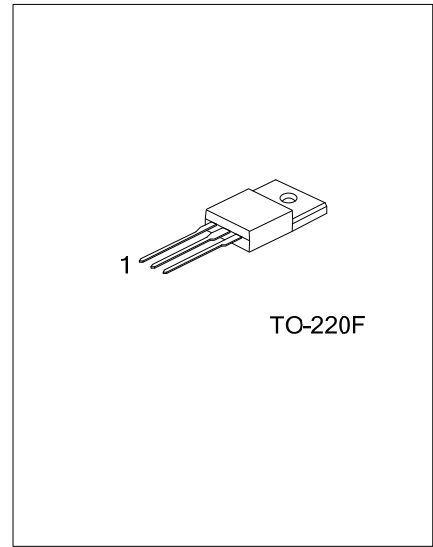
**PNP SILICON EPITAXIAL TRANSISTOR**

■ DESCRIPTION

The UTC **2SB1017** is a PNP silicon epitaxial transistor suited to be used in power amplifier applications.

■ FEATURES

\* Low base drive



■ ORDERING INFORMATION

| Ordering Number  |                  | Package | Pin Assignment |   |   | Packing |
|------------------|------------------|---------|----------------|---|---|---------|
| Lead Free        | Halogen Free     |         | 1              | 2 | 3 |         |
| 2SB1017L-x-TF3-T | 2SB1017G-x-TF3-T | TO-220F | B              | C | E | Tube    |

|                                                                                                 |                                                                                                                      |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <p>2SB1017L-x-TF3-T</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Rank<br/>(4)Lead Free</p> | <p>(1) T: Tube<br/>(2) TF3: TO-220F<br/>(3) x: refer to Classification of hFE<br/>(4) Halogen Free, L: Lead Free</p> |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|



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

| PARAMETER                                        | SYMBOL    | RATINGS   | UNIT             |
|--------------------------------------------------|-----------|-----------|------------------|
| Collector-Base Voltage                           | $V_{CBO}$ | -80       | V                |
| Collector-Emitter Voltage                        | $V_{CEO}$ | -80       | V                |
| Emitter-Base Voltage                             | $V_{EBO}$ | -5        | V                |
| Collector Current                                | $I_C$     | -4        | A                |
| Base Current                                     | $I_B$     | -0.4      | A                |
| Collector Dissipation ( $T_c=25^\circ\text{C}$ ) | $P_C$     | 25        | W                |
| Junction Temperature                             | $T_J$     | 150       | $^\circ\text{C}$ |
| Storage Temperature                              | $T_{ST}$  | -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 ( $T_c=25^\circ\text{C}$ , unless otherwise noted)

| PARAMETER                            | SYMBOL        | TEST CONDITIONS                          | MIN | TYP | MAX  | UNIT          |
|--------------------------------------|---------------|------------------------------------------|-----|-----|------|---------------|
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C=-50\text{mA}$ , $I_B=0$             | -80 |     |      | V             |
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB}=-80\text{V}$ , $I_E=0$           |     |     | -30  | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB}=-5\text{V}$ , $I_C=0$            |     |     | -100 | $\mu\text{A}$ |
| DC Current Gain                      | $h_{FE1}$     | $V_{CE}=-5\text{V}$ , $I_C=-0.5\text{A}$ | 40  |     | 240  |               |
|                                      | $h_{FE2}$     | $V_{CE}=-5\text{V}$ , $I_C=-3\text{A}$   | 15  |     |      |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=-3\text{A}$ , $I_B=-0.3\text{A}$    |     | -1  | -1.7 | V             |
| Base-Emitter ON Voltage              | $V_{BE(on)}$  | $V_{CE}=-5\text{V}$ , $I_C=-3\text{A}$   |     | -1  | -1.5 | V             |
| Current Gain Bandwidth Product       | $f_T$         | $V_{CE}=-5\text{V}$ , $I_C=-0.5\text{A}$ |     | 9   |      | MHz           |
| Output Capacitance                   | $C_{ob}$      | $V_{CB}=-10\text{V}$ , $f=1\text{MHz}$   |     | 130 |      | pF            |

■  $H_{FE}$  CLASSIFICATION

| Classification | R       | O        | Y         |
|----------------|---------|----------|-----------|
| $h_{FE1}$      | 40 ~ 80 | 70 ~ 140 | 120 ~ 240 |

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.