



BU406S

Advance

NPN PLANAR TRANSISTOR

NPN EXPITAXIAL PLANAR TRANSISTOR

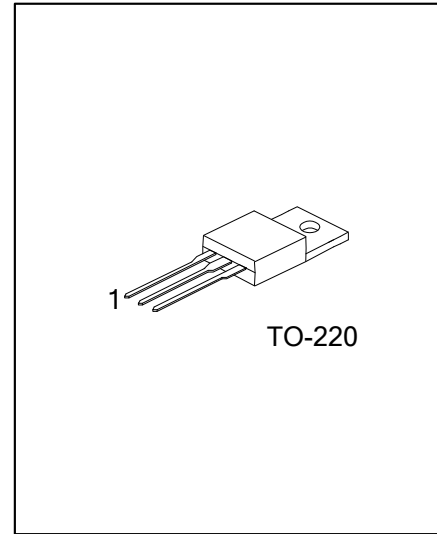
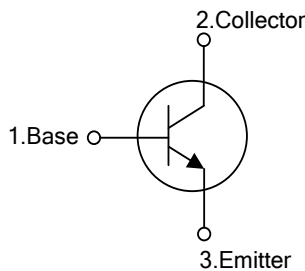
DESCRIPTION

The UTC **BU406S** is a NPN epitaxial planar transistor, designed for using in general purpose amplifier and switching applications.

FEATURES

* High voltage

SYMBOL



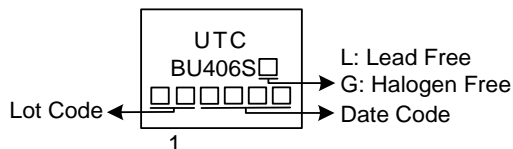
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|---------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| BU406AL-TA3-T | BU406AG-TA3-T | TO-220 | B | C | E | Tube |

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

| | |
|---|--|
| <p>BU406AG-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p> | <p>(1) T: Tube</p> <p>(2) TA3: TO-220</p> <p>(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 | RATING | UNIT |
|------------------------------|------------------------|------------|------------------|
| Collector Base Voltage | V_{CBO} | 200 | V |
| Collector to Emitter Voltage | V_{CEO} | 120 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Collector Current | DC | 7 | A |
| | Pulse | 10 | A |
| Base Current | I_B | 2 | A |
| Collector Dissipation | $T_A=25^\circ\text{C}$ | 2 | W |
| | $T_C=25^\circ\text{C}$ | 65 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -65 ~ +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 |
|---|---------------|--|-----|------|-----|---------------|
| Emitter Base Breakdown Voltage | BV_{EBO} | $I_E=100\mu\text{A}, I_C=0$ | 5 | | | V |
| Collector Base Breakdown Voltage | BV_{CBO} | $I_C=100\mu\text{A}, I_E=0$ | 100 | | | V |
| Collector Emitter Sustaining Voltage (Note) | BV_{CEO} | $I_C=30\text{mA}, I_B=0$ | 100 | | | V |
| Collector Cutoff Current | I_{CEO} | $V_{CE}=120\text{V}, I_B=0$ | | | 100 | μA |
| Collector Cutoff Current | I_{CES} | $V_{CE}=200\text{V}, V_{EB}=0$ | | | 100 | μA |
| | | $V_{CE}=150\text{V}, V_{EB}=0$ | | | 50 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=6\text{V}, I_C=0$ | | | 1 | mA |
| Collector-Emitter Saturation Voltage (Note) | $V_{CE(SAT)}$ | $I_C=5\text{A}, I_B=5\text{A}$ | | 0.22 | 0.5 | V |
| Base Emitter On Voltage | $V_{BE(ON)}$ | $V_{CE}=5\text{V}, I_C=5\text{A}$ | | 1.05 | 1.5 | V |
| DC Current Gain (Note) | h_{FE1} | $V_{CE}=5\text{V}, I_C=2\text{A}$ | 60 | | 120 | |
| | h_{FE2} | $V_{CE}=5\text{V}, I_C=5\text{A}$ | 40 | | | |
| Current Gain Bandwidth Product | f_T | $V_{CE}=10\text{V}, I_C=500\text{mA}, f=1\text{MHz}$ | 10 | | | MHz |
| Turn-Off Time | t_{OFF} | $I_C=5\text{A}, I_B=500\text{mA}$ | | | 0.7 | μs |

Note: Pulse Test: $P_w \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

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