



UPA806

Preliminary

NPN SILICON TRANSISTOR

NPN SILICON HIGH FREQUENCY TRANSISTOR

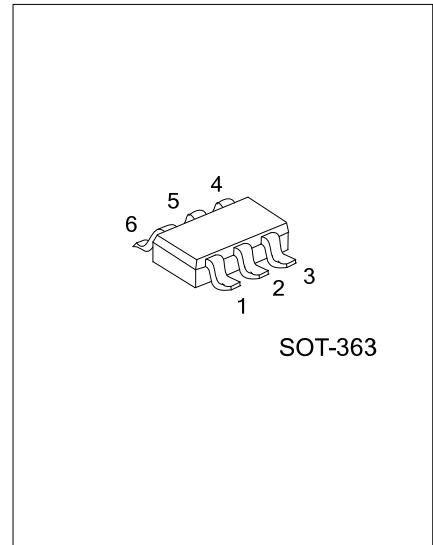
■ DESCRIPTION

The UTC **UPA806** is NPN silicon high frequency transistor, it uses UTC's advanced technology to provide customers with high gain, high gain bandwidth and low noise figure, etc.

The UTC **UPA806** is suited for various hand-held wireless applications.

■ FEATURES

- * High Gain
- * Low Noise Figure
- * High Gain Bandwidth
- * Excellent Low Voltage, Low Current Performance



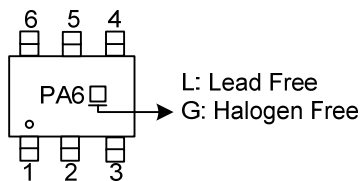
■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | | | | Packing |
|-----------------|---------------|---------|----------------|----|----|----|----|----|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | 4 | 5 | 6 | |
| UPA806L-AL6-R | UPA806G-AL6-R | SOT-363 | E2 | B2 | C1 | E1 | B1 | C2 | Tape Reel |

Note: Pin Assignment: G: Gate D: Drain S: Source

| | | |
|---------------|------------------|---|
| UPA806G-AL6-R | (1)Packing Type | (1) R: Tape Reel |
| | (2)Package Type | (2) AL6: SOT-363 |
| | (3)Green Package | (3) G: Halogen Free and Lead Free, L: Lead Free |

■ MARKING



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

| PARAMETER | SYMBOL | RATINGS | UNIT |
|------------------------------|-----------|------------|------------------|
| Collector to Base Voltage | V_{CBO} | 9 | V |
| Collector to Emitter Voltage | V_{CEO} | 6 | V |
| Emitter to Base Voltage | V_{EBO} | 2 | V |
| Collector Current | I_C | 30 | mA |
| Total Power Dissipation | P_D | 200 | mW |
| Junction Temperature | T_J | +150 | $^\circ\text{C}$ |
| Storage Temperature Range | 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 |
|-------------------------------|-----------|--|-----|-----|-----|---------------|
| Collector Cutoff Current | I_{CBO} | $V_{CB}=5\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=1\text{V}, I_C=0$ | | | 0.1 | μA |
| Forward Current Gain (Note 1) | h_{FE} | $V_{CE}=3\text{V}, I_C=10\text{mA}$ | 75 | 100 | 150 | |
| Gain Bandwidth | f_T | $V_{CE}=3\text{V}, I_C=10\text{mA}, f=2\text{GHz}$ | | 12 | | GHz |
| Feedback Capacitance (Note 2) | C_{re} | $V_{CB}=3\text{V}, I_E=0, f=1\text{MHz}$ | | 0.4 | 0.7 | pF |

Notes: 1. Pulsed measurement, pulse width $\leq 350\mu\text{s}$, duty cycle $\leq 2\%$

2. The emitter terminal should be connected to the ground terminal of the 3 terminal capacitance bridge.

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