



PZT5401

PNP EPITAXIAL SILICON TRANSISTOR

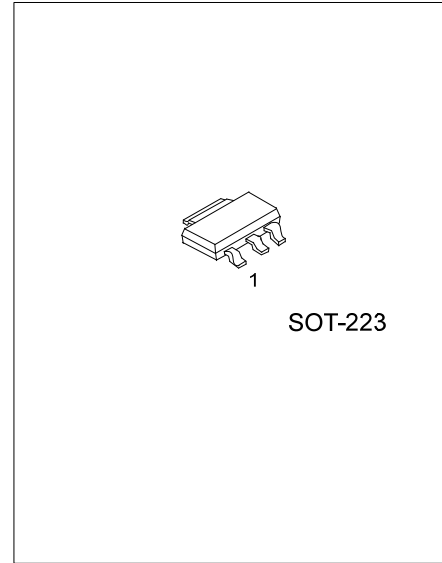
HIGH VOLTAGE SWITCHING TRANSISTOR

■ FEATURES

- * High Collector-Emitter Voltage: $V_{CE0}=-150V$
- * High current gain

■ APPLICATIONS

- * Telephone Switching Circuit
- * Amplifier



■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|------------------|------------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen-Free | | 1 | 2 | 3 | |
| PZT5401L-x-AA3-R | PZT5401G-x-AA3-R | SOT-223 | B | C | E | Tape Reel |

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

| | | |
|-------------------------|---|---|
| <p>PZT5401L-x-AE3-R</p> | <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Rank (4) Lead Free | <ul style="list-style-type: none"> (1) R: Tape Reel (2) AE3: SOT-23 (3) x: refer to Classification of h_{FE} (4) G: Halogen Free, L: Lead Free Plating |
|-------------------------|---|---|

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

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------------|-----------|------------|------------------|
| Collector-Base Voltage | V_{CB0} | -160 | V |
| Collector-Emitter Voltage | V_{CE0} | -150 | V |
| Emitter-Base Voltage | V_{EB0} | -5 | V |
| DC Collector Current | I_C | -600 | mA |
| Power Dissipation | P_D | 2 | W |
| Junction Temperature | T_J | +150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -40 ~ +150 | $^\circ\text{C}$ |

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

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|------|-----|--------------|------|
| Collector-Base Breakdown Voltage | V_{CB0} | $I_C=100\mu\text{A}, I_E=0$ | -160 | | | V |
| Collector-Emitter Breakdown Voltage | V_{CE0} | $I_C=1\text{mA}, I_B=0$ | -150 | | | V |
| Emitter-Base Breakdown Voltage | V_{EB0} | $I_E=10\mu\text{A}, I_C=0$ | -5 | | | V |
| Collector Cut-off Current | I_{CBO} | $V_{CB}=120\text{V}, I_E=0$ | | | -50 | nA |
| Emitter Cut-off Current | I_{EBO} | $V_{BE}=-3\text{V}, I_C=0$ | | | -50 | nA |
| DC Current Gain(note) | h_{FE} | $V_{CE}=-5\text{V}, I_C=-1\text{mA}$ | 80 | | | |
| | | $V_{CE}=-5\text{V}, I_C=-10\text{mA}$ | 80 | | 400 | |
| | | $V_{CE}=-5\text{V}, I_C=-50\text{mA}$ | 80 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-10\text{mA}, I_B=-1\text{mA}$ $I_C=-50\text{mA}, I_B=-5\text{mA}$ | | | -0.2 -0.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=-10\text{mA}, I_B=-1\text{mA}$ $I_C=-50\text{mA}, I_B=-5\text{mA}$ | | | -1 -1 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE}=-10\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$ | 100 | | 400 | MHz |
| Output Capacitance | C_{OB} | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ | | | 6.0 | pF |
| Noise Figure | N_F | $I_C=-0.25\text{mA}, V_{CE}=-5\text{V}$ $R_S=1\text{k}\Omega, f=10\text{Hz} \sim 15.7\text{kHz}$ | | | 8 | dB |

Note: Pulse test: $P_W < 300\mu\text{s}$, Duty Cycle $< 2\%$

■ CLASSIFICATION OF h_{FE}

| RANK | A | B | C |
|-------|--------|---------|---------|
| RANGE | 80-170 | 150-240 | 200-400 |

■ TYPICAL CHARACTERISTICS

Fig.1 Collector output Capacitance

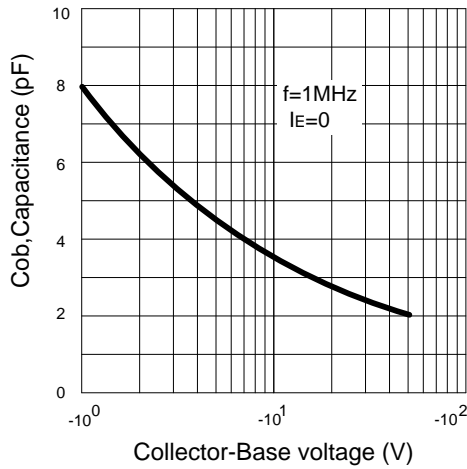


Fig.2 DC current Gain

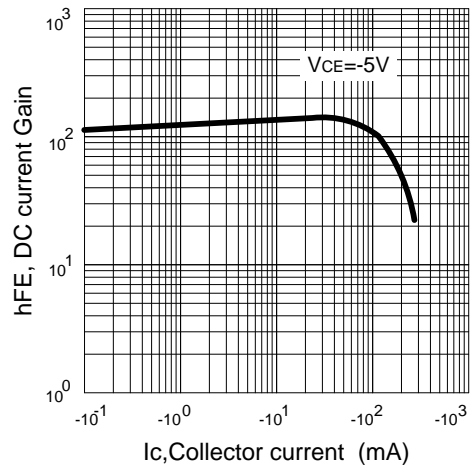


Fig.3 Base-Emitter on Voltage

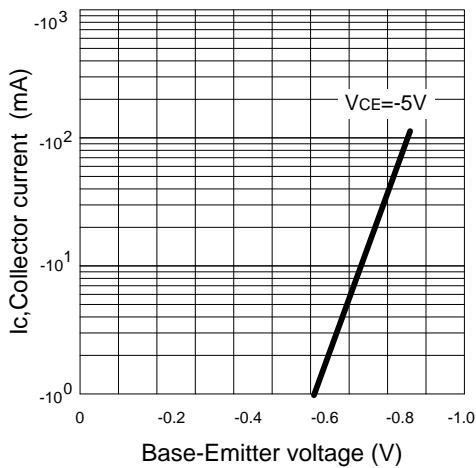


Fig.4 Saturation voltage

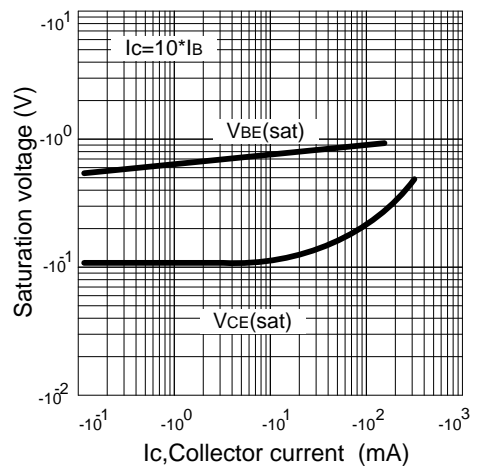
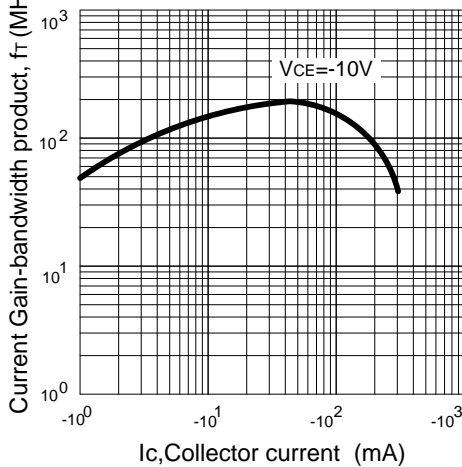


Fig.5 Current gain-bandwidth product



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.