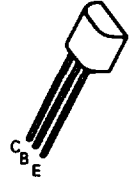


NPN SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ISSUE 2 - JANUARY 1995

ZTX1056A

Full characterised data now available



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | ZTX1056A | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 200 | V |
| Collector-Emitter Voltage | V_{CEO} | 160 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Peak Pulse Current | I_{CM} | 6 | A |
| Continuous Collector Current | I_C | 3 | A |
| Base Current | I_B | 500 | mA |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 1 | W |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +200 | $^{\circ}C$ |

ZTX1056A

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

| PARAMETER | SYMBOL | ZTX1056A | | | UNIT | CONDITIONS. |
|---------------------------------------|---------------|-------------------------------|--------------------------------------|-------------------------|----------------------|--|
| | | MIN. | TYP. | MAX. | | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 200 | 310 | | V | $I_C=100\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage | V_{CES} | 200 | 310 | | V | $I_C=100\mu\text{A}$ |
| Collector-Emitter Breakdown Voltage | V_{CEO} | 160 | 190 | | V | $I_C=10\text{mA}$ |
| Collector-Emitter Breakdown Voltage | V_{CEV} | 200 | 310 | | V | $I_C=100\mu\text{A}, V_{EB}=1\text{V}$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 5 | 8.8 | | V | $I_E=100\mu\text{A}$ |
| Collector Cut-Off Current | I_{CBO} | | 0.3 | 10 | nA | $V_{CB}=150\text{V}$ |
| Emitter Cut-Off Current | I_{EBO} | | 0.3 | 10 | nA | $V_{EB}=4\text{V}$ |
| Collector Emitter Cut-Off Current | I_{CES} | | 0.3 | 10 | nA | $V_{CES}=150\text{V}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 25 95 175 220 | 60 140 250 300 | mV mV mV mV | $I_C=0.1\text{A}, I_B=5\text{mA}^*$ $I_C=1\text{A}, I_B=50\text{mA}^*$ $I_C=2\text{A}, I_B=100\text{mA}^*$ $I_C=3\text{A}, I_B=200\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 950 | 1050 | mV | $I_C=3\text{A}, I_B=200\text{mA}^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | 860 | 950 | mV | $I_C=3\text{A}, V_{CE}=10\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 275 300 250 60 30 | 420 450 400 120 50 15 | 1200 | | $I_C=10\text{mA}, V_{CE}=10\text{V}^*$ $I_C=0.5\text{A}, V_{CE}=10\text{V}^*$ $I_C=1\text{A}, V_{CE}=10\text{V}^*$ $I_C=2\text{A}, V_{CE}=10\text{V}^*$ $I_C=3\text{A}, V_{CE}=10\text{V}^*$ $I_C=6\text{A}, V_{CE}=10\text{V}^*$ |
| Transition Frequency | f_T | | 120 | | MHz | $I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$ |
| Output Capacitance | C_{obo} | | 14 | 25 | pF | $V_{CB}=10\text{V}, f=1\text{MHz}$ |

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$