

# PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

ISSUE 1 – JULY 94

## ZTX776

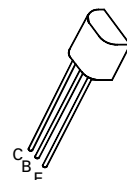
### FEATURES

- \* 200 Volt  $V_{CEO}$
- \* 1 Amp continuous current
- \*  $P_{tot} = 1$  Watt

REFER TO ZTX755 FOR GRAPHS

### ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                                                        | SYMBOL         | VALUE       | UNIT                 |
|----------------------------------------------------------------------------------|----------------|-------------|----------------------|
| Collector-Base Voltage                                                           | $V_{CBO}$      | -200        | V                    |
| Collector-Emitter Voltage                                                        | $V_{CEO}$      | -200        | V                    |
| Emitter-Base Voltage                                                             | $V_{EBO}$      | -5          | V                    |
| Peak Pulse Current                                                               | $I_{CM}$       | -2          | A                    |
| Continuous Collector Current                                                     | $I_C$          | -1          | A                    |
| Power Dissipation at $T_{amb}=25^{\circ}C$<br>derate above $T_{amb}=25^{\circ}C$ | $P_{tot}$      | 1<br>5.7    | W<br>mW/ $^{\circ}C$ |
| Operating and Storage Temperature Range                                          | $T_j; T_{stg}$ | -55 to +200 | $^{\circ}C$          |



**E-Line**  
**TO92 Compatible**

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ ).

| PARAMETER                             | SYMBOL        | MIN.           | MAX.         | UNIT   | CONDITIONS.                                                                                  |
|---------------------------------------|---------------|----------------|--------------|--------|----------------------------------------------------------------------------------------------|
| Collector-Base Breakdown Voltage      | $V_{(BR)CBO}$ | -200           |              | V      | $I_C = -100\mu A, I_E = 0$                                                                   |
| Collector-Emitter Breakdown Voltage   | $V_{(BR)CEO}$ | -200           |              | V      | $I_C = -10mA, I_B = 0^*$                                                                     |
| Emitter-Base Breakdown Voltage        | $V_{(BR)EBO}$ | -5             |              | V      | $I_E = -100\mu A, I_C = 0$                                                                   |
| Collector Cut-Off Current             | $I_{CBO}$     |                | -100         | nA     | $V_{CB} = -160V, I_E = 0$                                                                    |
| Emitter Cut-Off Current               | $I_{EBO}$     |                | -100         | nA     | $V_{EB} = -4V, I_C = 0$                                                                      |
| Collector-Emitter Saturation Voltage  | $V_{CE(sat)}$ |                | -0.5<br>-0.5 | V<br>V | $I_C = -500mA, I_B = -50mA^*$<br>$I_C = -1A, I_B = -200mA^*$                                 |
| Base-Emitter Saturation Voltage       | $V_{BE(sat)}$ |                | -1.1         | V      | $I_C = -500mA, I_B = -50mA^*$                                                                |
| Base-Emitter Turn-On Voltage          | $V_{BE(on)}$  |                | -1.0         | V      | $I_C = -500mA, V_{CE} = -5V^*$                                                               |
| Static Forward Current Transfer Ratio | $h_{FE}$      | 50<br>50<br>20 |              |        | $I_C = -10mA, V_{CE} = -5V$<br>$I_C = -500mA, V_{CE} = -5V^*$<br>$I_C = -1A, V_{CE} = -5V^*$ |
| Transition Frequency                  | $f_T$         | 30             |              | MHz    | $I_C = -10mA, V_{CE} = -20V$<br>$f = 20MHz$                                                  |
| Output Capacitance                    | $C_{obo}$     |                | 20           | pF     | $V_{CB} = -20V, f = 1MHz$                                                                    |

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