

NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

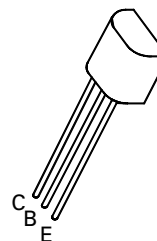
ZTX614

ISSUE 1 – APRIL 94

FEATURES

- * 100 Volt V_{CEO}
- * 800 mA continuous current
- * Gain of 10K at $I_C=500\text{mA}$
- * $P_{tot}=1$ Watt

REFER TO BCX38 FOR GRAPHS



E-line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|---------------|-------------|------------|
| Collector-Base Voltage | V_{CBO} | 120 | V |
| Collector-Emitter Voltage | V_{CEO} | 100 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | V |
| Continuous Collector Current | I_C | 800 | mA |
| Power Dissipation at $T_{amb}=25^\circ\text{C}$ derate above 25°C | P_{tot} | 1.0 5.7 | W mW/°C |
| Operating and Storage Temperature Range | $T_j:T_{stg}$ | -55 to +200 | °C |

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

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|----------------|---------------|------|------|------|--|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 120 | | | V | $I_C=10\mu\text{A}$, $I_E=0$ |
| Collector-Emitter Sustaining Voltage | $V_{CEO(sus)}$ | 100 | | | V | $I_C=10\text{mA}$, $I_B=0^*$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 10 | | | V | $I_E=10\mu\text{A}$, $I_C=0$ |
| Collector Cut-Off Current | I_{CBO} | | | 100 | nA | $V_{CB}=60\text{V}$, $I_E=0$ |
| Emitter Cut-Off Current | I_{EBO} | | | 100 | nA | $V_{EB}=8\text{V}$, $I_C=0$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | | 1.25 | V | $I_C=800\text{mA}$, $I_B=8\text{mA}^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | | 1.8 | V | $I_C=800\text{mA}$, $V_{CE}=5\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 5000 10000 | | | | $I_C=100\text{mA}$, $V_{CE}=5\text{V}^*$ $I_C=500\text{mA}$, $V_{CE}=5\text{V}^*$ |

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