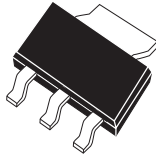


**CZT5551**

**NPN SILICON TRANSISTOR**



**SOT-223 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT5551 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage amplifier applications.

**MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$ )

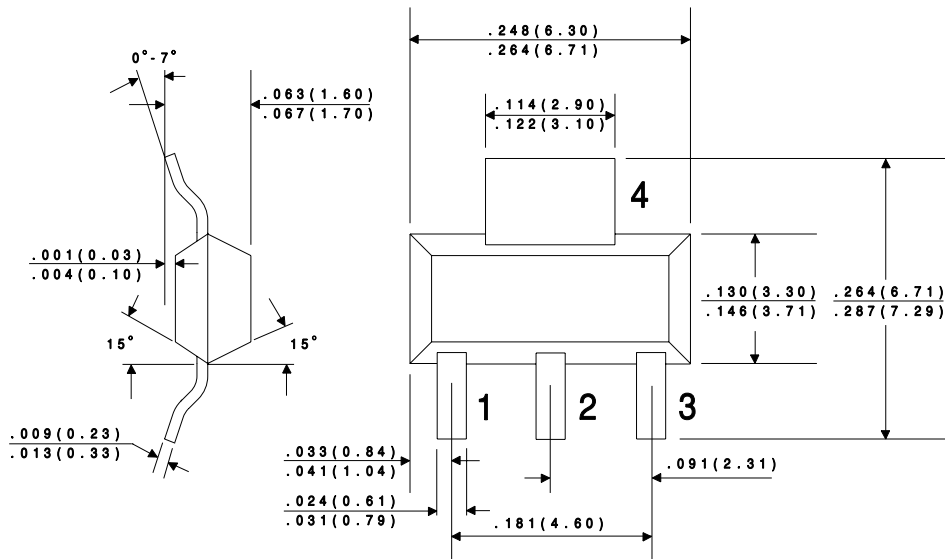
|                           | <b>SYMBOL</b>  |             | <b>UNITS</b>                |
|---------------------------|----------------|-------------|-----------------------------|
| Collector-Base Voltage    | $V_{CBO}$      | 180         | V                           |
| Collector-Emitter Voltage | $V_{CEO}$      | 160         | V                           |
| Emitter-Base Voltage      | $V_{EBO}$      | 6.0         | V                           |
| Collector Current         | $I_C$          | 600         | mA                          |
| Power Dissipation         | $P_D$          | 2.0         | W                           |
| Operating and Storage     |                |             |                             |
| Junction Temperature      | $T_J, T_{stg}$ | -65 to +150 | $^{\circ}\text{C}$          |
| Thermal Resistance        | $\theta_{JA}$  | 62.5        | $^{\circ}\text{C}/\text{W}$ |

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                        | <b>MIN</b> | <b>MAX</b> | <b>UNITS</b>  |
|---------------|---|------------|------------|---------------|
| $I_{CBO}$     | $V_{CB}=120\text{V}$                          |            | 50         | nA            |
| $I_{CBO}$     | $V_{CB}=120\text{V}, T_A=100^{\circ}\text{C}$ |            | 50         | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                          |            | 50         | nA            |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                          | 180        |            | V             |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                            | 160        |            | V             |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$                           | 6.0        |            | V             |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$           |            | 0.15       | V             |
| $V_{CE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$           |            | 0.20       | V             |
| $V_{BE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$           |            | 1.00       | V             |
| $V_{BE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$           |            | 1.00       | V             |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$        | 80         |            |               |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=10\text{mA}$         | 80         | 250        |               |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=50\text{mA}$         | 30         |            |               |

| SYMBOL   | TEST CONDITIONS  | MIN | MAX | UNITS |
|----------|--|-----|-----|-------|
| $f_T$    | $V_{CE}=10V, I_C=10mA, f=100MHz$                                   | 100 | 300 | MHz   |
| $C_{ob}$ | $V_{CB}=10V, I_E=0, f=1.0MHz$                                      |     | 6.0 | pF    |
| $C_{ib}$ | $V_{EB}=0.5V, I_C=0, f=1.0MHz$                                     |     | 20  | pF    |
| $h_{fe}$ | $V_{CE}=10V, I_C=1.0mA, f=1.0kHz$                                  | 50  | 200 |       |
| NF       | $V_{CE}=5.0V, I_C=200\mu A, R_S=10\Omega$<br>$f=10Hz$ to $15.7kHz$ |     | 8.0 | dB    |

All dimensions in inches (mm).



LEAD CODE:

- 1) BASE
- 2) COLLECTOR
- 3) EMITTER
- 3) COLLECTOR