

CZT5551

**SURFACE MOUNT SILICON
NPN TRANSISTOR**



SOT-223 CASE



www.centrasemi.com

DESCRIPTION:

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

MARKING: FULL PART NUMBER

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

| | |
|--|--|
| Collector-Base Voltage | |
| Collector-Emitter Voltage | |
| Emitter-Base Voltage | |
| Continuous Collector Current | |
| Power Dissipation | |
| Operating and Storage Junction Temperature | |
| Thermal Resistance | |

| SYMBOL | | UNITS |
|----------------|-------------|--------------------|
| V_{CB0} | 180 | V |
| V_{CEO} | 160 | V |
| V_{EBO} | 6.0 | V |
| I_C | 600 | mA |
| P_D | 2.0 | W |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| θ_{JA} | 62.5 | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---|-----|------|---------------|
| I_{CBO} | $V_{CB}=120\text{V}$ | | 50 | nA |
| I_{CBO} | $V_{CB}=120\text{V}, T_A=100^\circ\text{C}$ | | 50 | μA |
| 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 | | |
| f_T | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 100 | 300 | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 6.0 | pF |
| C_{ib} | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$ | | 20 | pF |
| h_{fe} | $V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$ | 50 | 200 | |
| NF | $V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=10\Omega,$ $f=10\text{Hz to } 15.7\text{kHz}$ | | 8.0 | dB |

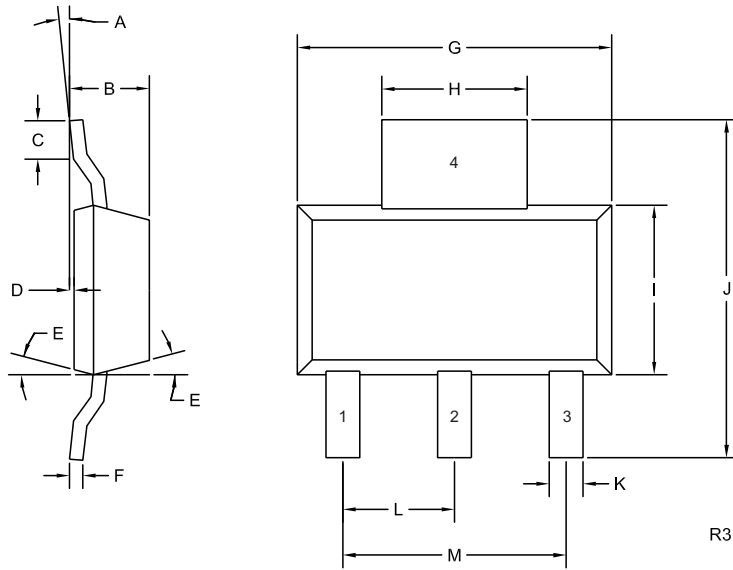
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SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Base
- 2) Collector
- 3) Emitter
- 4) Collector

MARKING:

FULL PART NUMBER

| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0° | 10° | 0° | 10° |
| B | 0.059 | 0.071 | 1.50 | 1.80 |
| C | 0.018 | --- | 0.45 | --- |
| D | 0.000 | 0.004 | 0.00 | 0.10 |
| E | 15° | | 15° | |
| F | 0.009 | 0.014 | 0.23 | 0.35 |
| G | 0.248 | 0.264 | 6.30 | 6.70 |
| H | 0.114 | 0.122 | 2.90 | 3.10 |
| I | 0.130 | 0.146 | 3.30 | 3.70 |
| J | 0.264 | 0.287 | 6.70 | 7.30 |
| K | 0.024 | 0.033 | 0.60 | 0.85 |
| L | 0.091 | | 2.30 | |
| M | 0.181 | | 4.60 | |

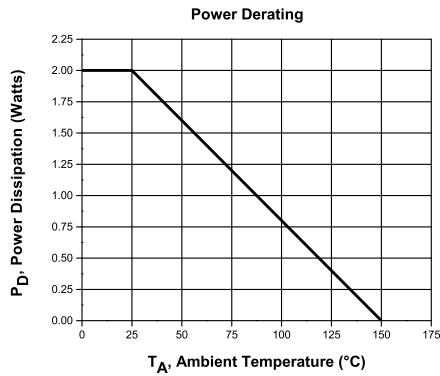
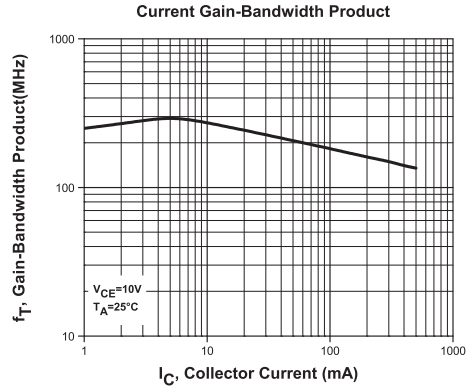
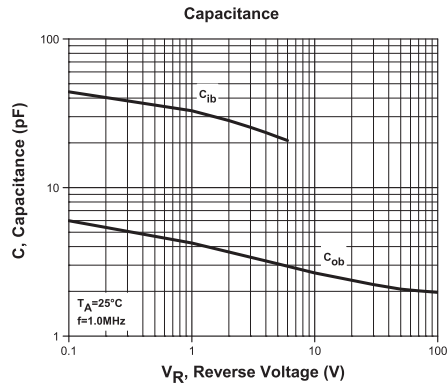
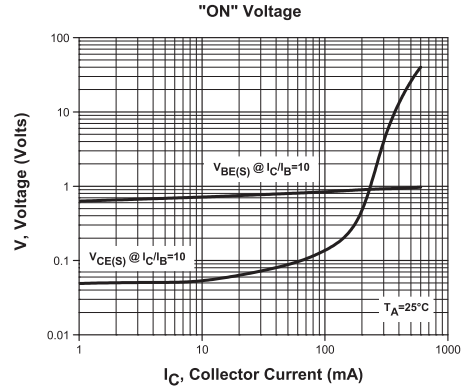
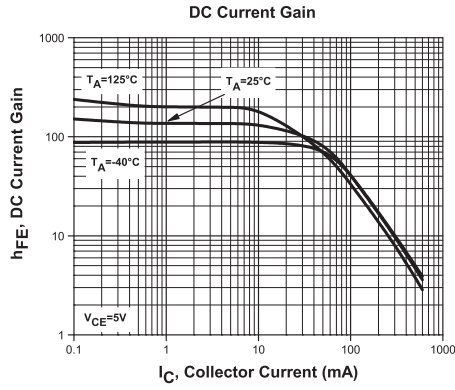
SOT-223 (REV: R3)

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TYPICAL ELECTRICAL CHARACTERISTICS



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