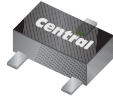


**CMUT5551**  
**SURFACE MOUNT**  
**NPN SILICON TRANSISTOR**



[www.centrasemi.com](http://www.centrasemi.com)

**ULTRAmini™**



**SOT-523 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUT5551 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.

**MARKING CODE: 55C**

**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**

|                |             |
|----------------|-------------|
| $V_{CBO}$      | 180         |
| $V_{CEO}$      | 160         |
| $V_{EBO}$      | 6.0         |
| $I_C$          | 600         |
| $P_D$          | 250         |
| $T_J, T_{stg}$ | -65 to +150 |
| $\theta_{JA}$  | 500         |

**UNITS**

|                    |
|--------------------|
| V                  |
| V                  |
| V                  |
| mA                 |
| mW                 |
| $^\circ\text{C}$   |
| $^\circ\text{C/W}$ |

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

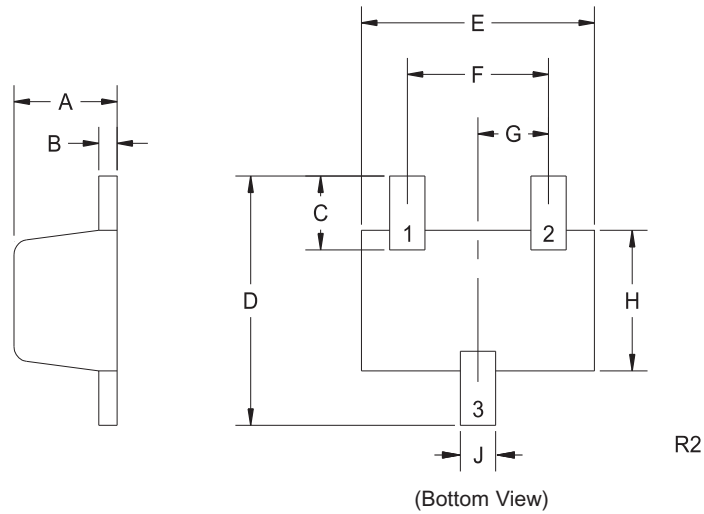
| SYMBOL        | TEST CONDITIONS   | MIN | MAX  | UNITS         |
|---------------|---|-----|------|---------------|
| $I_{CBO}$     | $V_{CB}=120\text{V}$  |     | 50   | nA            |
| $I_{CBO}$     | $V_{CB}=120\text{V}, T_A=100^\circ\text{C}$   |     | 50   | $\mu\text{A}$ |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$  | 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            |
| $h_{fe}$      | $V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$  | 50  | 200  |               |
| NF            | $V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=10\Omega,$<br>$f=10\text{Hz to } 15.7\text{kHz}$ |     | 8.0  | dB            |

R1 (9-February 2010)

CMUT5551  
SURFACE MOUNT  
NPN SILICON TRANSISTOR



**SOT-523 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE: 55C**

| <b>DIMENSIONS</b> |        |       |             |      |
|-------------------|--------|-------|-------------|------|
| SYMBOL            | INCHES |       | MILLIMETERS |      |
|                   | MIN    | MAX   | MIN         | MAX  |
| A                 | 0.023  | 0.031 | 0.58        | 0.78 |
| B                 | 0.002  | 0.008 | 0.04        | 0.20 |
| C                 | 0.013  | 0.021 | 0.34        | 0.54 |
| D                 | 0.059  | 0.067 | 1.50        | 1.70 |
| E                 | 0.059  | 0.067 | 1.50        | 1.70 |
| F                 | 0.035  | 0.043 | 0.90        | 1.10 |
| G                 | 0.020  |       | 0.50        |      |
| H                 | 0.031  | 0.039 | 0.78        | 0.98 |
| J                 | 0.010  | 0.014 | 0.25        | 0.35 |

SOT-523 (REV: R2)

R1 (9-February 2010)