

CMPT5551HC

**SURFACE MOUNT  
HIGH CURRENT  
NPN SILICON TRANSISTOR**



**SOT-23 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT5551HC type is a high current NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high voltage and high current amplifier applications.

**MARKING CODE: 1FHC**

**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  
 $I_C$  1.0  
 $P_D$  350  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  357

**UNITS**

V  
V  
V  
A  
mW  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

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

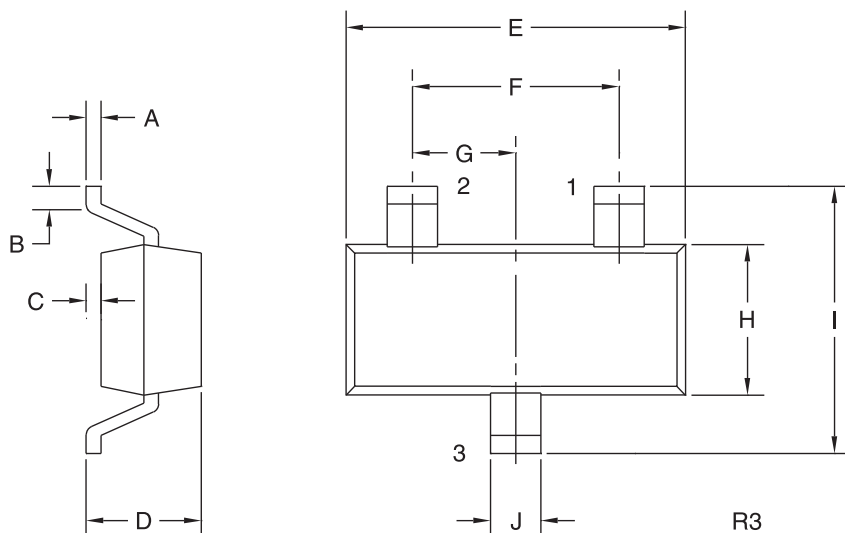
| SYMBOL        | TEST CONDITIONS                                       | MIN | TYP | MAX  | UNITS         |
|---------------|-------------------------------------------------------|-----|-----|------|---------------|
| $I_{CBO}$     | $V_{CB}=120\text{V}$                                  |     |     | 50   | nA            |
| $I_{CBO}$     | $V_{CB}=120\text{V}, T_A=100^\circ\text{C}$           |     |     | 50   | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                                  |     |     | 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  |     |      |               |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{A}$                  |     | 10  |      |               |
| $f_T$         | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 100 |     |      | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$           |     |     | 15   | pF            |

R1 (1-February 2010)

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE: 1FHC**

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.003  | 0.007 | 0.08        | 0.18 |
| B          | 0.006  | -     | 0.15        | -    |
| C          | -      | 0.005 | -           | 0.13 |
| D          | 0.035  | 0.043 | 0.89        | 1.09 |
| E          | 0.110  | 0.120 | 2.80        | 3.05 |
| F          | 0.075  |       | 1.90        |      |
| G          | 0.037  |       | 0.95        |      |
| H          | 0.047  | 0.055 | 1.19        | 1.40 |
| I          | 0.083  | 0.098 | 2.10        | 2.49 |
| J          | 0.014  | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R3)

R1 (1-February 2010)