

**Central**<sup>TM</sup>  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT3150 type is a NPN Silicon Power Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current, high gain, fast switching applications.

**MARKING CODE: FULL PART NUMBER**

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

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

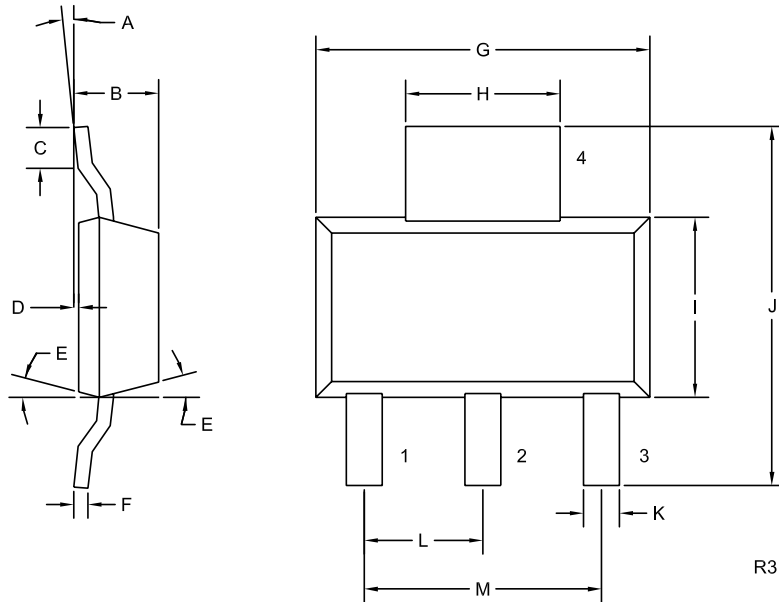
|                |             | UNITS                |
|----------------|-------------|----------------------|
| $V_{CBO}$      | 50          | V                    |
| $V_{CEO}$      | 25          | V                    |
| $V_{EBO}$      | 7.0         | V                    |
| $I_C$          | 5.0         | A                    |
| $I_B$          | 1.0         | A                    |
| $P_D$          | 2.0         | W                    |
| $T_J, T_{stg}$ | -65 to +150 | $^{\circ}\text{C}$   |
| $\theta_{JA}$  | 62.5        | $^{\circ}\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                        | MIN | TYP | MAX  | UNITS         |
|---------------|--------------------------------------------------------|-----|-----|------|---------------|
| $I_{CBO}$     | $V_{CB}=50\text{V}$                                    |     |     | 1.0  | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=7.0\text{V}$                                   |     |     | 1.0  | $\mu\text{A}$ |
| $BV_{CEO}$    | $I_C=10\text{mA}$                                      | 25  |     |      | V             |
| $V_{CE(SAT)}$ | $I_C=3.0\text{A}, I_B=150\text{mA}$                    |     |     | 0.35 | V             |
| $V_{CE(SAT)}$ | $I_C=4.0\text{A}, I_B=200\text{mA}$                    |     |     | 0.50 | V             |
| $V_{BE(SAT)}$ | $I_C=3.0\text{A}, I_B=150\text{mA}$                    |     |     | 1.10 | V             |
| $V_{BE(SAT)}$ | $I_C=4.0\text{A}, I_B=200\text{mA}$                    |     |     | 1.40 | V             |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=500\text{mA}$                 | 250 |     | 550  |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=2.0\text{A}$                  | 150 |     |      |               |
| $h_{FE}$      | $V_{CE}=2.0\text{V}, I_C=5.0\text{A}$                  | 50  |     |      |               |
| $f_T$         | $V_{CE}=6.0\text{V}, I_C=50\text{mA}, f=200\text{MHz}$ |     | 150 |      | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$            |     |     | 50   | pF            |

R4 (17-June 2004)

**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODE:**

**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)