

CZT250K

**SURFACE MOUNT
EXTREMELY HIGH h_{FE}
NPN SILICON
DARLINGTON TRANSISTOR**



SOT-223 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT250K type is an NPN silicon Darlington transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

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

| | |
|----------------|-------------|
| V_{CBO} | 50 |
| V_{CEO} | 25 |
| V_{EBO} | 10 |
| I_C | 1.0 |
| P_D | 2.0 |
| T_J, T_{stg} | -65 to +150 |
| θ_{JA} | 62.5 |

UNITS

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

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

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|--|---------|-----|-------|
| I_{CBO} | $V_{CB}=30\text{V}$ | | 100 | nA |
| BV_{CBO} | $I_C=10\mu\text{A}$ | 50 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 25 | | V |
| BV_{EBO} | $I_E=100\mu\text{A}$ | 10 | | V |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=0.1\text{mA}$ | | 1.5 | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$ | | 2.0 | V |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=10\text{mA}$ | 250,000 | | |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$ | 250,000 | | |
| f_T | $V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 125 | | MHz |

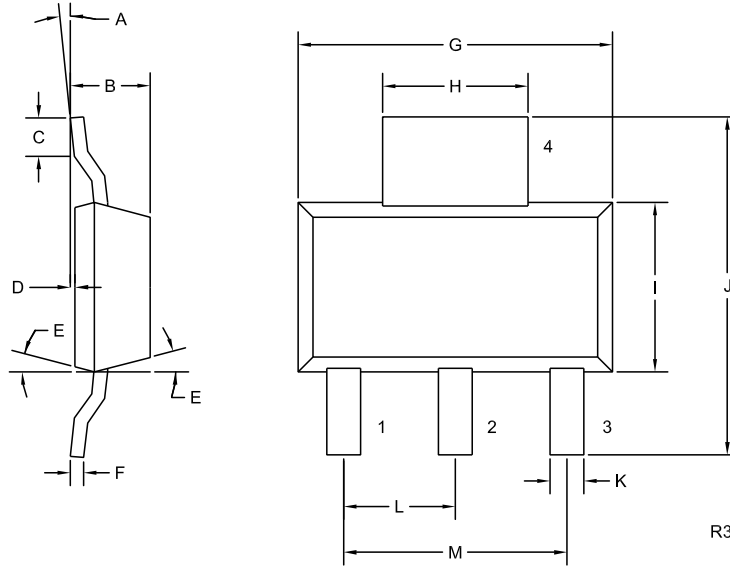
R3 (1-March 2010)

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SOT-223 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING:

FULL PART NUMBER

| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | 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)

R3 (1-March 2010)