

CZT953

**SURFACE MOUNT
HIGH CURRENT
PNP SILICON TRANSISTOR**



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT953 type is a high current PNP 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: FULL PART NUMBER



SOT-223 CASE

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation (Note 1)
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{CBO} 140
 V_{CEO} 100
 V_{EBO} 6.0
 I_C 5.0
 P_D 3.0
 T_J, T_{stg} -65 to +150
 Θ_{JA} 41.7

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 | TYP | MAX | UNITS |
|---------------|---|-----|-----|-----|---------------|
| I_{CBO} | $V_{CB}=100\text{V}$ | | | 50 | nA |
| I_{CBO} | $V_{CB}=100\text{V}, T_A=100^\circ\text{C}$ | | | 1.0 | μA |
| I_{CER} | $V_{CE}=100\text{V}, R_{BE}\leq 1.0\text{k}\Omega$ | | | 50 | nA |
| I_{EBO} | $V_{EB}=6.0\text{V}$ | | | 10 | nA |
| BV_{CBO} | $I_C=100\mu\text{A}$ | 140 | 170 | | V |
| BV_{CER} | $I_C=10\text{mA}, R_{BE}\leq 1.0\text{k}\Omega$ | 140 | 150 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 100 | 120 | | V |
| BV_{EBO} | $I_E=100\mu\text{A}$ | 6.0 | 9.0 | | V |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | 20 | 50 | mV |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$ | | 90 | 120 | mV |
| $V_{CE(SAT)}$ | $I_C=2.0\text{A}, I_B=200\text{mA}$ | | 170 | 220 | mV |
| $V_{CE(SAT)}$ | $I_C=4.0\text{A}, I_B=400\text{mA}$ | | 320 | 420 | mV |
| $V_{BE(SAT)}$ | $I_C=4.0\text{A}, I_B=400\text{mA}$ | | 1.0 | 1.2 | V |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=10\text{mA}$ | 100 | | | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=1.0\text{A}$ | 100 | 200 | 300 | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=3.0\text{A}$ | 50 | 70 | | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=4.0\text{A}$ | 30 | 45 | | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=10\text{A}$ | | 15 | | |
| f_T | $V_{CE}=10\text{V}, I_C=100\text{mA}, f=50\text{MHz}$ | | 150 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 45 | | pF |

Notes: (1) FR-4 Epoxy PC Board with copper mounting pad area of 4in^2 (minimum)

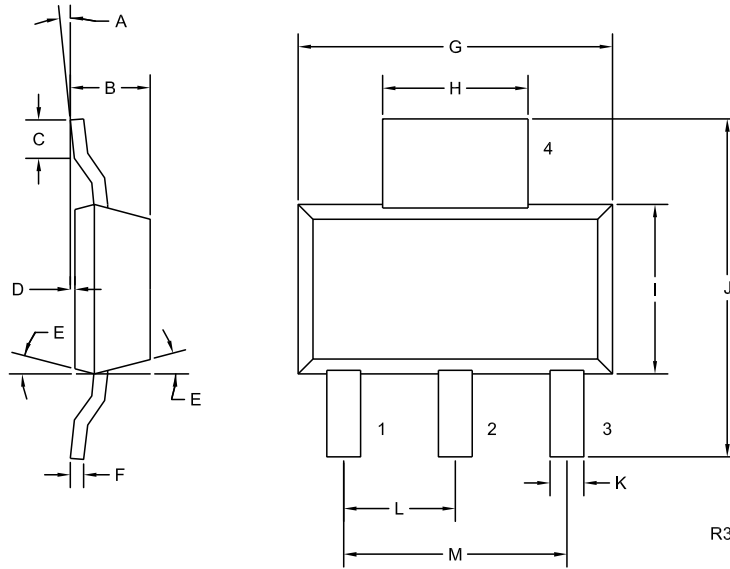
R3 (1-March 2010)

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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 | | 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)