

CZTA44HC

SURFACE MOUNT SILICON  
HIGH CURRENT  
HIGH VOLTAGE  
NPN TRANSISTOR

POWER  
223™



SOT-223 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZTA44HC is a surface mount epoxy molded silicon planar epitaxial transistor designed for extremely high voltage and high current applications.

**MARKING: FULL PART NUMBER**

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

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

**SYMBOL**

$V_{CBO}$  450  
 $V_{CEO}$  400  
 $V_{EBO}$  7.0  
 $I_C$  2.0  
 $I_{CM}$  3.0  
 $P_D$  2.0  
 $T_J, T_{stg}$  65 to +150  
 $\Theta_{JA}$  62.5

**UNITS**

V  
V  
V  
A  
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 |
|---------------|------------------------------------------------------|-----|------|-------|
| $I_{CBO}$     | $V_{CB}=400\text{V}$                                 |     | 500  | nA    |
| $I_{EBO}$     | $V_{BE}=5.0\text{V}$                                 |     | 500  | nA    |
| $BV_{CBO}$    | $I_C=50\mu\text{A}$                                  | 450 |      | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                                   | 400 |      | V     |
| $BV_{EBO}$    | $I_E=50\mu\text{A}$                                  | 7.0 |      | V     |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$                  |     | 0.25 | V     |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$                  |     | 0.50 | V     |
| $V_{CE(SAT)}$ | $I_C=2.0\text{A}, I_B=200\text{mA}$                  |     | 1.5  | V     |
| $V_{BE(SAT)}$ | $I_C=1.0\text{A}, I_B=1.0\text{mA}$                  |     | 1.5  | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=10\text{mA}$                 | 35  |      |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=500\text{mA}$                | 35  |      |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{A}$                 | 30  |      |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=2.0\text{A}$                 | 15  |      |       |
| $f_T$         | $V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$ | 10  |      | MHz   |
| $C_{ob}$      | $V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$          |     | 30   | pF    |
| $C_{ib}$      | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$         |     | 1000 | pF    |

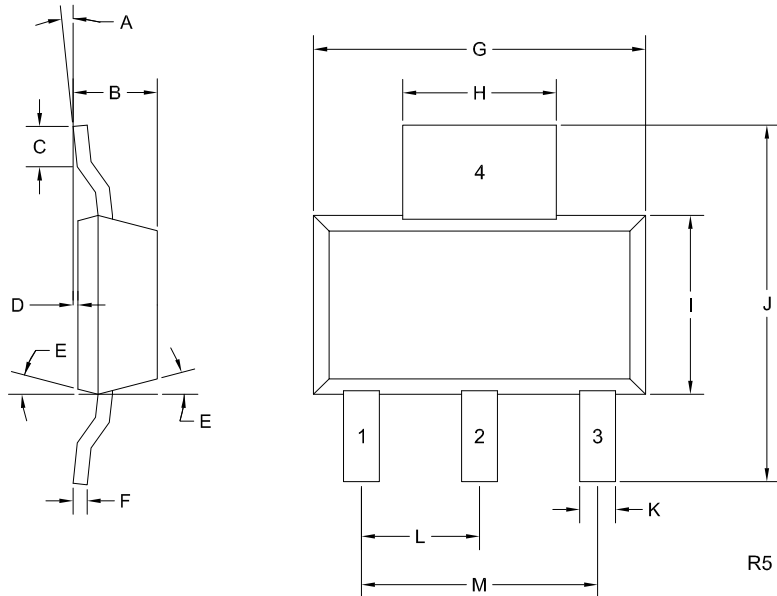
R6 (7-May 2019)

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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      | 10°        |       | 10°         |      |
| F      | 0.009      | 0.014 | 0.23        | 0.35 |
| G      | 0.248      | 0.270 | 6.30        | 6.85 |
| 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: R5)

R6 (7-May 2019)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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