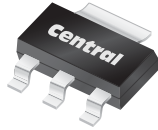


CZTA28

**SURFACE MOUNT SILICON  
NPN DARLINGTON TRANSISTOR**



**SOT-223 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZTA28 is a silicon NPN 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-Emitter Voltage                  | $V_{CES}$      | 80          | V                  |
| Collector-Base Voltage                     | $V_{CBO}$      | 80          | V                  |
| Emitter-Base Voltage                       | $V_{EBO}$      | 12          | V                  |
| Continuous Collector Current               | $I_C$          | 500         | mA                 |
| Power Dissipation                          | $P_D$          | 2.0         | W                  |
| Operating and Storage Junction Temperature | $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$   |
| Thermal Resistance                         | $\theta_{JA}$  | 62.5        | $^\circ\text{C/W}$ |

| SYMBOL         |             |  | UNITS              |
|----------------|-------------|--|--------------------|
| $V_{CES}$      | 80          |  | V                  |
| $V_{CBO}$      | 80          |  | V                  |
| $V_{EBO}$      | 12          |  | V                  |
| $I_C$          | 500         |  | mA                 |
| $P_D$          | 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)

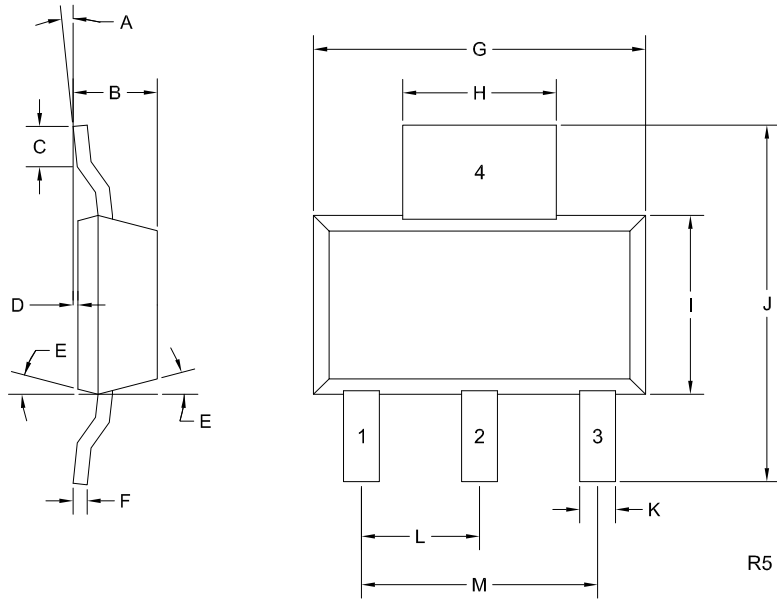
| SYMBOL        | TEST CONDITIONS  | MIN    | MAX | UNITS |
|---------------|--|--------|-----|-------|
| $I_{CBO}$     | $V_{CB}=60\text{V}$                                    |        | 100 | nA    |
| $I_{CES}$     | $V_{CE}=60\text{V}$                                    |        | 500 | nA    |
| $I_{EBO}$     | $V_{EB}=10\text{V}$                                    |        | 100 | nA    |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                                   | 80     |     | V     |
| $BV_{CES}$    | $I_C=100\mu\text{A}$                                   | 80     |     | V     |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$                                    | 12     |     | V     |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=10\mu\text{A}$                   |        | 1.2 | V     |
| $V_{CE(SAT)}$ | $I_C=100\text{mA}, I_B=100\mu\text{A}$                 |        | 1.5 | V     |
| $V_{BE(ON)}$  | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$                 |        | 2.0 | V     |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=10\text{mA}$                  | 10,000 |     |       |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=100\text{mA}$                 | 10,000 |     |       |
| $f_T$         | $V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 125    |     | MHz   |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$            |        | 8.0 | pF    |

R5 (7-May 2019)

**CZTA28**  
**SURFACE MOUNT SILICON**  
**NPN DARLINGTON TRANSISTOR**



**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

| 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      | 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)

R5 (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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