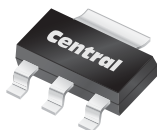


CZT122 NPN  
CZT127 PNP

**SURFACE MOUNT SILICON  
COMPLEMENTARY POWER  
DARLINGTON TRANSISTORS**

**POWER  
223™**



**SOT-223 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT122, CZT127 devices are complementary silicon power Darlington transistors manufactured in a surface mount package designed for low speed switching and amplifier applications.

**MARKING: FULL PART NUMBER**

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

|                                            | SYMBOL         |             | UNITS              |
|--------------------------------------------|----------------|-------------|--------------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 100         | V                  |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 100         | V                  |
| Emitter-Base Voltage                       | $V_{EBO}$      | 5.0         | V                  |
| Continuous Collector Current               | $I_C$          | 5.0         | A                  |
| Peak Collector Current                     | $I_{CM}$       | 8.0         | A                  |
| Continuous Base Current                    | $I_B$          | 120         | 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        | $^\circ\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                        | MIN  | MAX | UNITS         |
|---------------|--------------------------------------------------------|------|-----|---------------|
| $I_{CEO}$     | $V_{CE}=50\text{V}$                                    |      | 500 | $\mu\text{A}$ |
| $I_{CBO}$     | $V_{CB}=100\text{V}$                                   |      | 200 | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$                                   |      | 2.0 | mA            |
| $BV_{CEO}$    | $I_C=30\text{mA}$                                      | 100  |     | V             |
| $V_{CE(SAT)}$ | $I_C=3.0\text{A}, I_B=12\text{mA}$                     |      | 2.0 | V             |
| $V_{CE(SAT)}$ | $I_C=5.0\text{A}, I_B=20\text{mA}$                     |      | 4.0 | V             |
| $V_{BE(ON)}$  | $V_{CE}=3.0\text{V}, I_C=3.0\text{A}$                  |      | 2.5 | V             |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=500\text{mA}$                 | 1000 |     |               |
| $h_{FE}$      | $V_{CE}=3.0\text{V}, I_C=3.0\text{A}$                  | 1000 |     |               |
| $f_T$         | $V_{CE}=4.0\text{V}, I_C=3.0\text{A}, f=1.0\text{MHz}$ | 4.0  |     | MHz           |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz (CZT122)}$   |      | 200 | pF            |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz (CZT127)}$   |      | 300 | pF            |

R6 (7-May 2019)

CZT122 NPN  
CZT127 PNP

SURFACE MOUNT SILICON  
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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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