

CZT31C NPN  
CZT32C PNP

**SURFACE MOUNT SILICON  
COMPLEMENTARY  
POWER TRANSISTORS**

**POWER  
223™**



**SOT-223 CASE**



[www.centra-semi.com](http://www.centra-semi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CZT31C and CZT32C are silicon surface mount epoxy molded complementary transistors manufactured by the epitaxial base process, designed for surface mounted power amplifier applications up to 3.0 amps.

**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  
Continuous Base Current  
Power Dissipation  
Power Dissipation ( $T_C=25^{\circ}\text{C}$ )  
Operating and Storage Junction Temperature  
Thermal Resistance  
Thermal Resistance

**SYMBOL**

$V_{CBO}$  100  
 $V_{CEO}$  100  
 $V_{EBO}$  5.0  
 $I_C$  3.0  
 $I_{CM}$  6.0  
 $I_B$  1.0  
 $P_D$  2.0  
 $P_D$  10  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  62.5  
 $\theta_{JC}$  12.5

**UNITS**

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

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

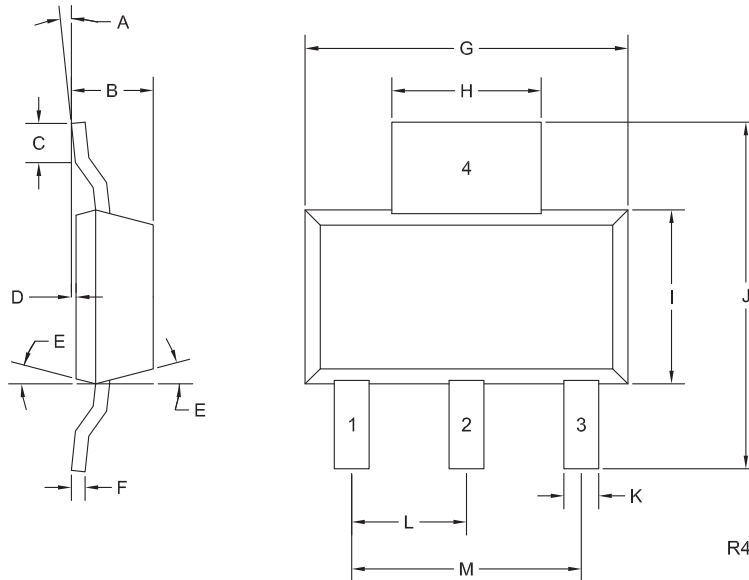
| SYMBOL        | TEST CONDITIONS  | MIN | MAX | UNITS         |
|---------------|--|-----|-----|---------------|
| $I_{CES}$     | $V_{CE}=100\text{V}$                                   |     | 200 | $\mu\text{A}$ |
| $I_{CEO}$     | $V_{CE}=60\text{V}$                                    |     | 300 | $\mu\text{A}$ |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$                                   |     | 1.0 | mA            |
| $BV_{CEO}$    | $I_C=30\text{mA}$                                      | 100 |     | V             |
| $V_{CE(SAT)}$ | $I_C=3.0\text{A}, I_B=375\text{mA}$                    |     | 1.2 | V             |
| $V_{BE(ON)}$  | $V_{CE}=4.0\text{V}, I_C=3.0\text{A}$                  |     | 1.8 | V             |
| $h_{FE}$      | $V_{CE}=4.0\text{V}, I_C=1.0\text{A}$                  | 25  |     |               |
| $h_{FE}$      | $V_{CE}=4.0\text{V}, I_C=3.0\text{A}$                  | 10  | 100 |               |
| $f_T$         | $V_{CE}=10\text{V}, I_C=500\text{mA}, f=1.0\text{MHz}$ | 3.0 |     | MHz           |

CZT31C NPN  
CZT32C PNP

**SURFACE MOUNT SILICON  
COMPLEMENTARY  
POWER TRANSISTORS**



**SOT-223 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| 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  | 0.264 | 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: R4)

R5 (8-December 2017)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### 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

---

### 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

---

### 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).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)