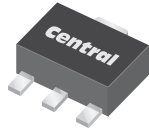


CXT3019

**SURFACE MOUNT  
NPN SILICON TRANSISTOR**



**SOT-89 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CXT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for high current general purpose amplifier 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         |             | UNITS              |
|----------------|-------------|--------------------|
| $V_{CBO}$      | 140         | V                  |
| $V_{CEO}$      | 80          | V                  |
| $V_{EBO}$      | 7.0         | V                  |
| $I_C$          | 1.0         | A                  |
| $I_{CM}$       | 1.5         | A                  |
| $P_D$          | 1.2         | W                  |
| $T_J, T_{stg}$ | -65 to +175 | $^\circ\text{C}$   |
| $\theta_{JA}$  | 125         | $^\circ\text{C/W}$ |

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

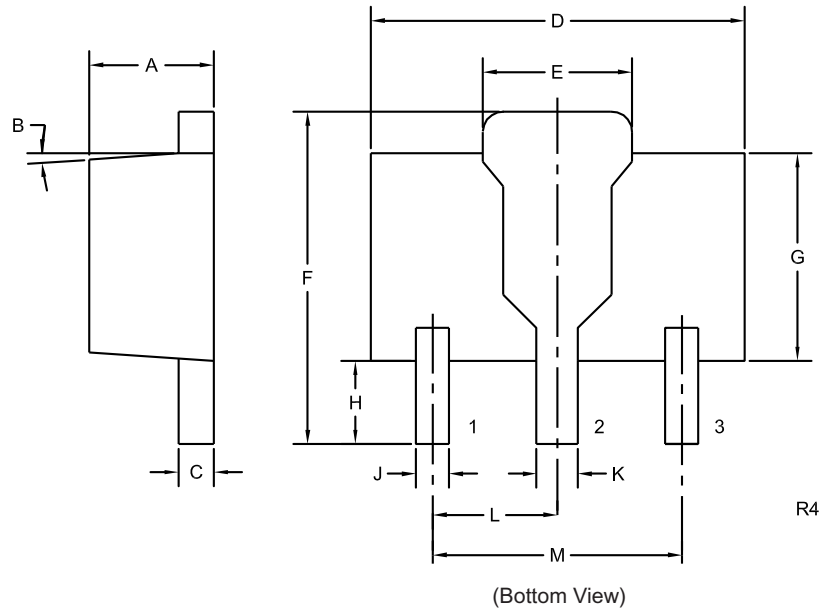
| SYMBOL        | TEST CONDITIONS   | MIN | MAX | UNITS |
|---------------|---|-----|-----|-------|
| $I_{CBO}$     | $V_{CB}=90\text{V}$   |     | 10  | nA    |
| $I_{EBO}$     | $V_{EB}=5.0\text{V}$  |     | 10  | nA    |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$  | 140 |     | V     |
| $BV_{CEO}$    | $I_C=30\text{mA}$   | 80  |     | V     |
| $BV_{EBO}$    | $I_E=100\mu\text{A}$  | 7.0 |     | V     |
| $V_{CE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$   |     | 0.2 | V     |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$   |     | 0.5 | V     |
| $V_{BE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$   |     | 1.1 | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=0.1\text{mA}$   | 50  |     |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=10\text{mA}$  | 90  |     |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=150\text{mA}$   | 100 | 300 |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=500\text{mA}$   | 50  |     |       |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=1.0\text{A}$  | 15  |     |       |
| $f_T$         | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=1.0\text{MHz}$                           | 100 |     | MHz   |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$                                     |     | 12  | pF    |
| $C_{ib}$      | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$                                    |     | 60  | pF    |
| NF            | $V_{CE}=10\text{V}, I_C=100\mu\text{A}, R_S=1.0\text{k}\Omega, f=1.0\text{kHz}$ |     | 4.0 | dB    |

R7 (23-February 2010)

CXT3019  
SURFACE MOUNT  
NPN SILICON TRANSISTOR



**SOT-89 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:  
FULL PART NUMBER**

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| SYMBOL     | INCHES |       | MILLIMETERS |      |
|            | MIN    | MAX   | MIN         | MAX  |
| A          | 0.055  | 0.067 | 1.40        | 1.70 |
| B          | 4°     |       | 4°          |      |
| C          | 0.014  | 0.018 | 0.35        | 0.46 |
| D          | 0.173  | 0.185 | 4.40        | 4.70 |
| E          | 0.064  | 0.074 | 1.62        | 1.87 |
| F          | 0.146  | 0.177 | 3.70        | 4.50 |
| G          | 0.090  | 0.106 | 2.29        | 2.70 |
| H          | 0.028  | 0.051 | 0.70        | 1.30 |
| J          | 0.014  | 0.019 | 0.36        | 0.48 |
| K          | 0.017  | 0.023 | 0.44        | 0.58 |
| L          | 0.059  |       | 1.50        |      |
| M          | 0.118  |       | 3.00        |      |

SOT-89 (REV: R4)

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## 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

#### 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)

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