

**CXT491E**  
**SURFACE MOUNT**  
**NPN SILICON TRANSISTOR**



**SOT-89 CASE**

# Central<sup>TM</sup>

**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CXT491E 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 Code: Full Part Number**

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

|                           | <b>SYMBOL</b>  |             | <b>UNITS</b>       |
|---------------------------|----------------|-------------|--------------------|
| Collector-Base Voltage    | $V_{CBO}$      | 80          | V                  |
| Collector-Emitter Voltage | $V_{CEO}$      | 60          | V                  |
| Emitter-Base Voltage      | $V_{EBO}$      | 5.0         | V                  |
| Collector Current         | $I_C$          | 1.0         | A                  |
| Base Current              | $I_B$          | 200         | mA                 |
| Collector Current (Peak)  | $I_{CM}$       | 2.0         | A                  |
| Power Dissipation         | $P_D$          | 1.2         | W                  |
| Operating and Storage     |                |             |                    |
| Junction Temperature      | $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$   |
| Thermal Resistance        | $\theta_{JA}$  | 104         | $^\circ\text{C/W}$ |

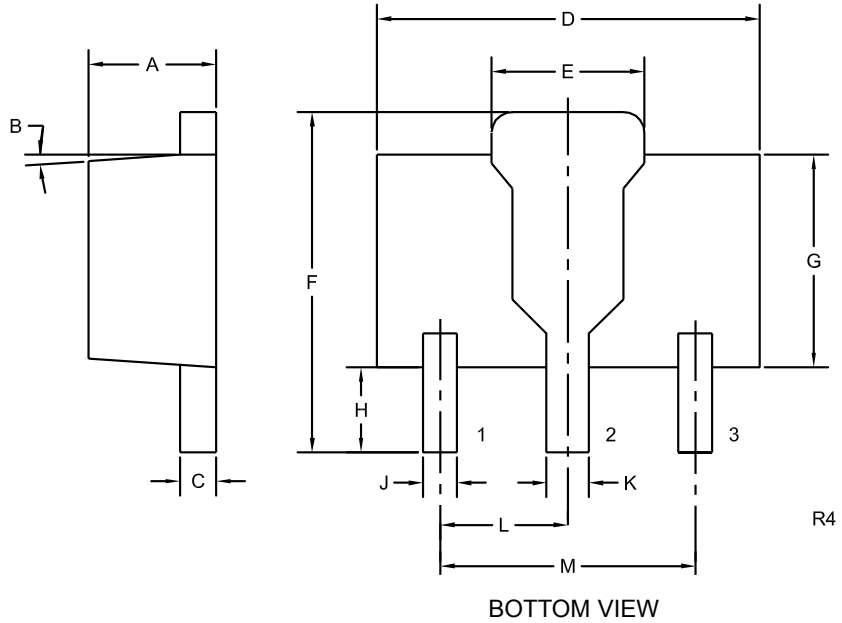
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                                | <b>MIN</b> | <b>MAX</b> | <b>UNITS</b> |
|---------------|---|------------|------------|--------------|
| $I_{CBO}$     | $V_{CB}=60\text{V}$                                   |            | 100        | nA           |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                                  |            | 100        | nA           |
| $BV_{CBO}$    | $I_C=100\mu\text{A}$                                  | 80         |            | V            |
| $BV_{CEO}$    | $I_C=10\text{mA}$                                     | 60         |            | V            |
| $BV_{EBO}$    | $I_E=100\mu\text{A}$                                  | 5.0        |            | V            |
| $V_{CE(SAT)}$ | $I_C=500\text{mA}, I_B=50\text{mA}$                   |            | 0.20       | V            |
| $V_{CE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$                   |            | 0.40       | V            |
| $V_{BE(SAT)}$ | $I_C=1.0\text{A}, I_B=100\text{mA}$                   |            | 1.1        | V            |
| $V_{BE(ON)}$  | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$                 |            | 1.0        | V            |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$                | 200        |            |              |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=500\text{mA}$                | 200        | 600        |              |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=1.0\text{A}$                 | 50         |            |              |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=2.0\text{A}$                 | 15         |            |              |
| $f_T$         | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ | 150        |            | MHz          |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$           |            | 10         | pF           |

R1 (20-May 2004)

**SURFACE MOUNT  
NPN SILICON TRANSISTOR**

**SOT-89 CASE - MECHANICAL OUTLINE**



LEAD CODE:

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

**MARKING CODE: 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)



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

[LittleDiode.com](http://LittleDiode.com)

Looking forward to providing you with the best possible service.