

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

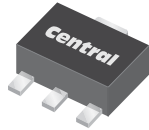


[www.centralemi.com](http://www.centralemi.com)

**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: FULL PART NUMBER**



**SOT-89 CASE**

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

|  |                |             |                    |
|--|----------------|-------------|--------------------|
| Collector-Base Voltage                     | $V_{CBO}$      | 80          | V                  |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 60          | V                  |
| Emitter-Base Voltage                       | $V_{EBO}$      | 5.0         | V                  |
| Continuous Collector Current               | $I_C$          | 1.0         | A                  |
| Continuous Base Current                    | $I_B$          | 200         | mA                 |
| Peak Collector Current                     | $I_{CM}$       | 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         | $^\circ\text{C/W}$ |

**SYMBOL**

**UNITS**

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

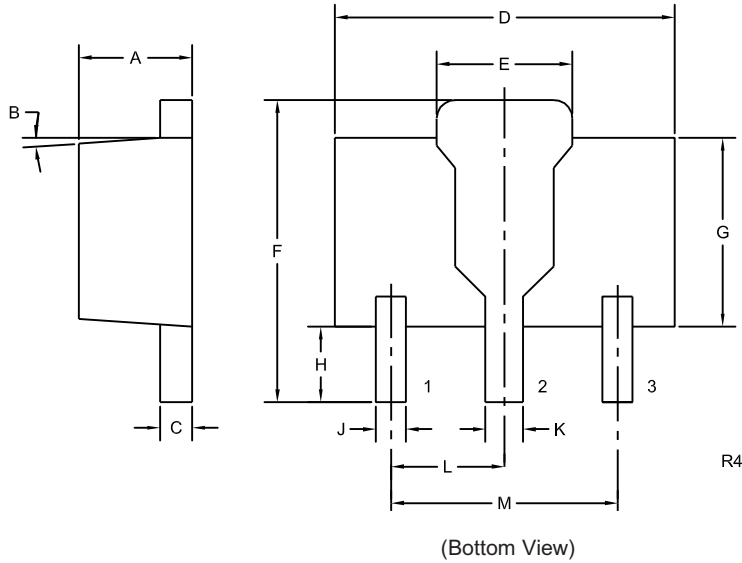
| <b>SYMBOL</b> | <b>TEST CONDITIONS</b>                                | <b>MIN</b> | <b>MAX</b> | <b>UNITS</b> |
|---------------|---|------------|------------|--------------|
| $I_{CBO}$     | $V_{CB}=60\text{V}$                                   |            | 100        | nA           |
| $I_{EBO}$     | $V_{EB}=4.0\text{V}$                                  |            | 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           |

R2 (19-February 2010)

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**SOT-89 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING:**

**FULL PART NUMBER**

| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | 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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