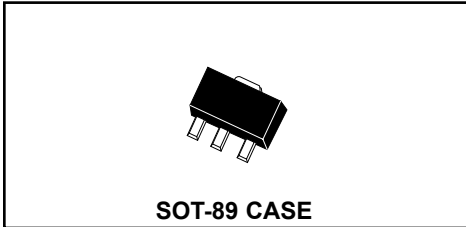


CXT3019

**SURFACE MOUNT
NPN SILICON TRANSISTORS**



CentralTM

Semiconductor Corp.

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.

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

| | SYMBOL | | UNITS |
|---|----------------|-------------|--------------------|
| Collector-Base Voltage | V_{CB0} | 140 | V |
| Collector-Emitter Voltage | V_{CEO} | 80 | V |
| Emitter-Base Voltage | V_{EBO} | 7.0 | V |
| Collector Current | I_C | 1.0 | A |
| Collector Current (Peak) | I_{CM} | 1.5 | 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 | Θ_{JA} | 104 | $^\circ\text{C/W}$ |

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

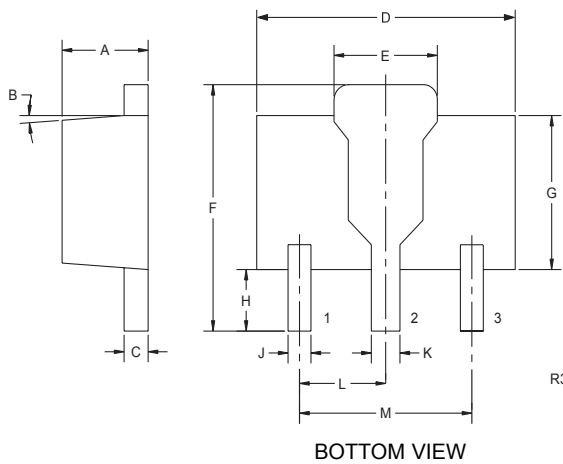
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---------------------------------------|------------|------------|--------------|
| I_{CBO} | $V_{CB}=90\text{V}$ | | 10 | nA |
| I_{EBO} | $V_{EB}=5.0\text{V}$ | | 10 | nA |
| BV_{CBO} | $I_C=100\mu\text{A}$ | 140 | | V |
| BV_{CEO} | $I_C=30\text{mA}$ | 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 | | |

**SURFACE MOUNT
NPN SILICON TRANSISTORS**

ELECTRICAL CHARACTERISTICS (Continued)

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|----------|--|-----|-----|-------|
| f_T | $V_{CE}=10V, I_C=50mA, f=1.0MHz$ | 100 | | MHz |
| C_{ob} | $V_{CB}=10V, I_E=0, f=1.0MHz$ | | 12 | pF |
| C_{ib} | $V_{EB}=0.5V, I_C=0, f=1.0MHz$ | | 60 | pF |
| NF | $V_{CE}=10V, I_C=100\mu A, R_S=1k\Omega, f=1.0kHz$ | | 4.0 | dB |

SOT-89 CASE - MECHANICAL OUTLINE



| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.055 | 0.067 | 1.40 | 1.70 |
| B | 4° | | 4° | |
| C | 0.016 | 0.018 | 0.40 | 0.46 |
| D | 0.173 | 0.185 | 4.40 | 4.70 |
| E | 0.070 | 0.074 | 1.79 | 1.87 |
| F | 0.146 | 0.177 | 3.70 | 4.50 |
| G | 0.094 | 0.106 | 2.40 | 2.70 |
| H | 0.028 | 0.051 | 0.70 | 1.30 |
| J | 0.015 | 0.019 | 0.38 | 0.48 |
| K | 0.019 | 0.023 | 0.48 | 0.58 |
| L | 0.059 | | 1.50 | |
| M | 0.118 | | 3.00 | |

SOT-89 (REV: R3)

LEAD CODE:

- 1) EMITTER
- 2) COLLECTOR
- 3) BASE