**CMPT3019**

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




**SOT-23 CASE**

Central Semiconductor Corp.

www.centralsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for very high current, general purpose amplifier applications.

**MARKING CODE: C3A**

| **MAXIMUM RATINGS:** ($T_A$=25°C) | **SYMBOL** | | **UNITS** |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 140 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 80 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 7.0 | V |
| Continuous Collector Current | $I_C$ | 500 | mA |
| Peak Collector Current | $I_{CM}$ | 1.0 | A |
| Power Dissipation | $P_D$ | 350 | mW |
| Operating and Storage Junction Temperature | $T_J$, $T_{stg}$ | -65 to +150 | °C |
| Thermal Resistance | $\Theta_{JA}$ | 357 | °C/W |

**ELECTRICAL CHARACTERISTICS:** ($T_A$=25°C unless otherwise noted)

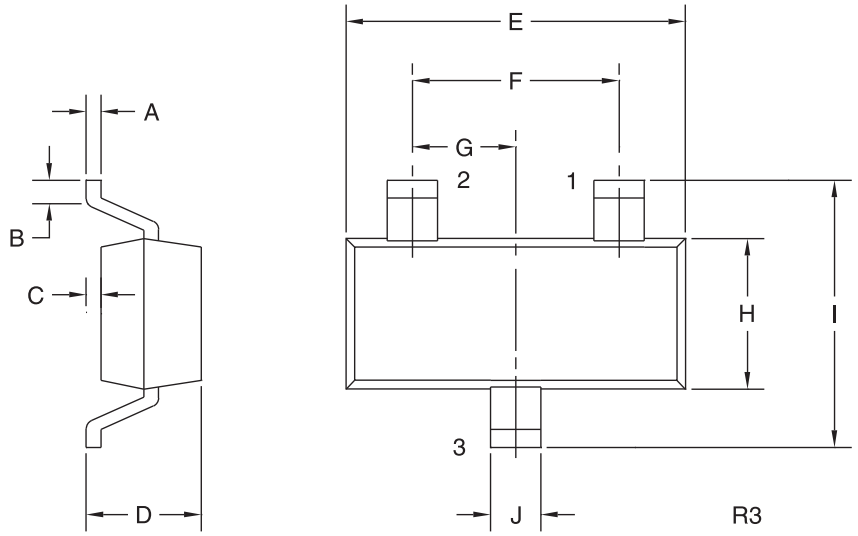
| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **MAX** | **UNITS** |
|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=90V | | 10 | nA |
| $I_{EBO}$ | $V_{EB}$=5.0V | | 10 | nA |
| $BV_{CBO}$ | $I_C$=100μA | 140 | | V |
| $BV_{CEO}$ | $I_C$=30mA | 80 | | V |
| $BV_{EBO}$ | $I_E$=100μA | 7.0 | | V |
| $V_{CE(SAT)}$ | $I_C$=150mA, $I_B$=15mA | | 0.2 | V |
| $V_{CE(SAT)}$ | $I_C$=500mA, $I_B$=50mA | | 0.5 | V |
| $V_{BE(SAT)}$ | $I_C$=150mA, $I_B$=15mA | | 1.1 | V |
| $h_{FE}$ | $V_{CE}$=10V, $I_C$=0.1mA | 50 | | |
| $h_{FE}$ | $V_{CE}$=10V, $I_C$=10mA | 90 | | |
| $h_{FE}$ | $V_{CE}$=10V, $I_C$=150mA | 100 | 300 | |
| $h_{FE}$ | $V_{CE}$=10V, $I_C$=500mA | 50 | | |
| $f_T$ | $V_{CE}$=10V, $I_C$=50mA, f=20MHz | 100 | 400 | 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, $I_C$=100μA, $R_S$=1.0kΩ, f=1.0kHz | | 4.0 | dB |

R4 (9-November 2010)

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## SOT-23 CASE - MECHANICAL OUTLINE




**LEAD CODE:**
1) Base
2) Emitter
3) Collector

**MARKING CODE: C3A**

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | MIN | MAX | MIN | MAX |
| A | 0.003 | 0.007 | 0.08 | 0.18 |
| B | 0.006 | - | 0.15 | - |
| C | - | 0.005 | - | 0.13 |
| D | 0.035 | 0.043 | 0.89 | 1.09 |
| E | 0.110 | 0.120 | 2.80 | 3.05 |
| F | 0.075 | | 1.90 | |
| G | 0.037 | | 0.95 | |
| H | 0.047 | 0.055 | 1.19 | 1.40 |
| I | 0.083 | 0.098 | 2.10 | 2.49 |
| J | 0.014 | 0.020 | 0.35 | 0.50 |

SOT-23 (REV: R3)

## 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 (2nd 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

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