**CMAD4448**

**SURFACE MOUNT**
**ULTRA HIGH SPEED SILICON**
**SWITCHING DIODE**

FEMTOmini™




**SOD-923 CASE**

Central Semiconductor Corp.

www.centralsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMAD4448 is an ultra high speed switching diode ideal for applications where very small size and operational efficiency are prime requirements.

**MARKING CODE: M**

**APPLICATIONS:**

- DC / DC Converters
- Voltage Clamping
- Protection Circuits
- Battery powered applications including Cell Phones, Digital Cameras, Pagers, PDAs, Laptop Computers, etc.

**FEATURES:**

- Current ($I_O$=250mA)
- Forward Voltage Drop ($V_F$=0.91V TYP @ 100mA)
- Extremely Fast Switching Speed (4ns Max)
- Miniture, 0.8 x 0.6 x 0.4mm, ultra low height profile **FEMTO**mini™ Surface Mount Package.

| **MAXIMUM RATINGS:** ($T_A$=25°C) | **SYMBOL** | | **UNITS** |
|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 120 | V |
| Continuous Forward Current | $I_F$ | 250 | mA |
| Peak Repetitive Forward Current | $I_{FRM}$ | 500 | mA |
| Peak Forward Surge Current, tp=1.0μs | $I_{FSM}$ | 4.0 | A |
| Peak Forward Surge Current, tp=1.0s | $I_{FSM}$ | 1.0 | A |
| Power Dissipation | $P_D$ | 100 | mW |
| Operating and Storage Junction Temperature | $T_J$, $T_{stg}$ | -65 to +150 | °C |
| Thermal Resistance | $\Theta_{JA}$ | 1250 | °C/W |

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

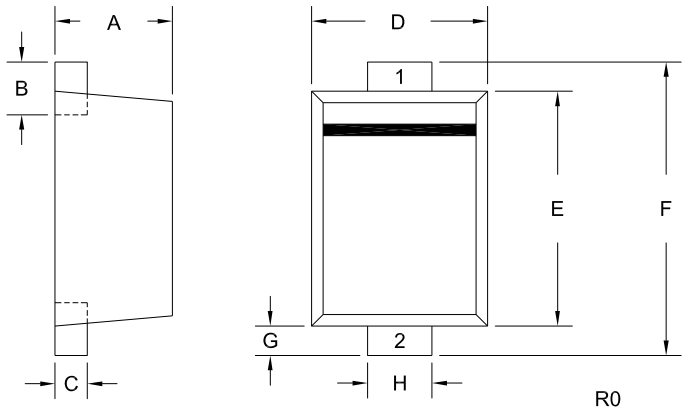
| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **TYP** | **MAX** | **UNITS** |
|---|---|---|---|---|---|
| $I_R$ | $V_R$=50V | | | 300 | nA |
| $I_R$ | $V_R$=50V, $T_A$=125°C | | | 100 | μA |
| $I_R$ | $V_R$=100V | | | 500 | nA |
| $BV_R$ | $I_R$=100μA | 120 | 150 | | V |
| $V_F$ | $I_F$=1.0mA | 0.55 | 0.59 | 0.65 | V |
| $V_F$ | $I_F$=10mA | 0.67 | 0.72 | 0.77 | V |
| $V_F$ | $I_F$=100mA | 0.85 | 0.91 | 1.0 | V |
| $C_T$ | $V_R$=0, f=1.0MHz | | | 2.0 | pF |
| $t_{rr}$ | $I_R$=$I_F$=10mA, $R_L$=100Ω, Rec. to 1.0mA | | 2.0 | 4.0 | ns |

R1 (8-January 2010)

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## SOD-923 CASE - MECHANICAL OUTLINE




**LEAD CODE:**
1) CATHODE
2) ANODE

**MARKING CODE: M**

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | MIN | MAX | MIN | MAX |
| A | 0.015 | 0.016 | 0.39 | 0.41 |
| B | 0.004 | 0.010 | 0.10 | 0.26 |
| C | 0.003 | 0.006 | 0.08 | 0.14 |
| D | 0.022 | 0.026 | 0.55 | 0.65 |
| E | 0.030 | 0.033 | 0.75 | 0.85 |
| F | 0.035 | 0.043 | 0.90 | 1.10 |
| G | 0.002 | 0.006 | 0.05 | 0.15 |
| H | 0.007 | 0.011 | 0.17 | 0.27 |

SOD-923 (REV: R0)

## 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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