

CMAD4448

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



www.centrasemi.com

**FEMTOmini™**



**SOD-923 CASE**

**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 **FEMTOmini™** Surface Mount Package.

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

Peak Repetitive Reverse Voltage  
 Continuous Forward Current  
 Peak Repetitive Forward Current  
 Peak Forward Surge Current,  $t_p=1.0\mu s$   
 Peak Forward Surge Current,  $t_p=1.0s$   
 Power Dissipation  
 Operating and Storage Junction Temperature  
 Thermal Resistance

**SYMBOL**

$V_{RRM}$  120  
 $I_F$  250  
 $I_{FRM}$  500  
 $I_{FSM}$  4.0  
 $I_{FSM}$  1.0  
 $P_D$  100  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  1250

**UNITS**

V  
 mA  
 mA  
 A  
 A  
 mW  
 $^\circ C$   
 $^\circ C/W$

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

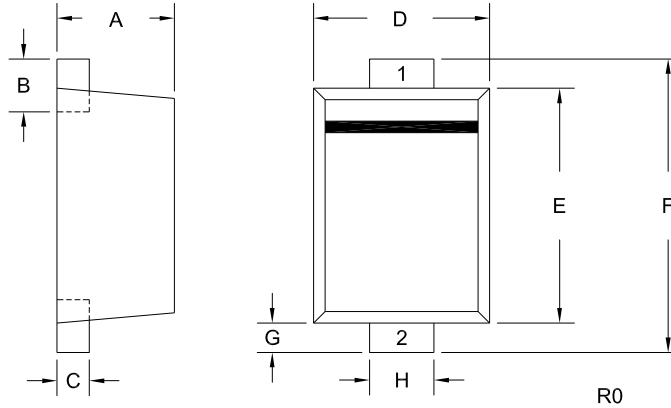
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_R$	$V_R=50V$			300	nA
$I_R$	$V_R=50V, T_A=125^\circ C$			100	$\mu A$
$I_R$	$V_R=100V$			500	nA
$BV_R$	$I_R=100\mu A$	120	150		V
$V_F$	$I_F=1.0mA$	0.55	0.59	0.65	V
$V_F$	$I_F=10mA$	0.67	0.72	0.77	V
$V_F$	$I_F=100mA$	0.85	0.91	1.0	V
$C_T$	$V_R=0, f=1.0MHz$		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

CMAD4448

SURFACE MOUNT  
ULTRA HIGH SPEED SILICON  
SWITCHING DIODE



SOD-923 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) CATHODE
- 2) ANODE

MARKING CODE: M

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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)

R1 (8-January 2010)

## 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 (2<sup>nd</sup> 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

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)