



**CMAD4448**

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

**FEMTOmini™**



**SOD-923 CASE**

# Central™

**Semiconductor Corp.**

**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**

**FEATURES:**

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

**APPLICATIONS:**

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

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

Peak Repetitive Reverse Voltage  
 Continuous Forward Current  
 Peak Repetitive Forward Current  
 Forward Surge Current,  $t_p=1\text{ ms}$   
 Forward Surge Current,  $t_p=1\text{ s}$   
 Power Dissipation  
 Operating and Storage  
 Junction Temperature  
 Thermal Resistance

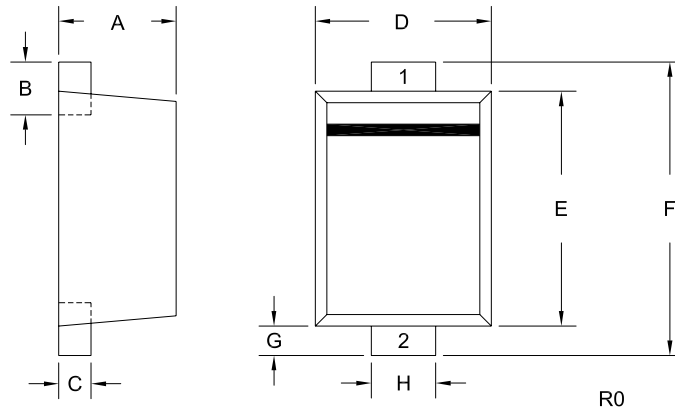
SYMBOL		UNITS
$V_{RRM}$	120	V
$I_F$	250	mA
$I_{FRM}$	500	mA
$I_{FSM}$	4.0	A
$I_{FSM}$	1.0	A
$P_D$	100	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	1250	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$BV_R$	$I_R=100\mu\text{A}$	120	150		V
$I_R$	$V_R=50\text{V}$			300	nA
$I_R$	$V_R=50\text{V}, T_A=125^\circ\text{C}$			100	$\mu\text{A}$
$I_R$	$V_R=100\text{V}$			500	nA
$V_F$	$I_F=1.0\text{mA}$	0.55	0.59	0.65	V
$V_F$	$I_F=10\text{mA}$	0.67	0.72	0.77	V
$V_F$	$I_F=100\text{mA}$	0.85	0.91	1.0	V
$C_T$	$V_R=0, f=1\text{ MHz}$			2.0	pF
$t_{rr}$	$I_R=I_F=10\text{mA}, R_L=100\Omega, \text{Rec. to } 1.0\text{mA}$		2.0	4.0	ns

R0 (20-April 2007)

SOD-923 CASE - MECHANICAL OUTLINE



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)

Lead Code:  
1) Cathode  
2) Anode

R0 (20-April 2007)