

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
 θ_{JA} 1250

UNITS

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

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

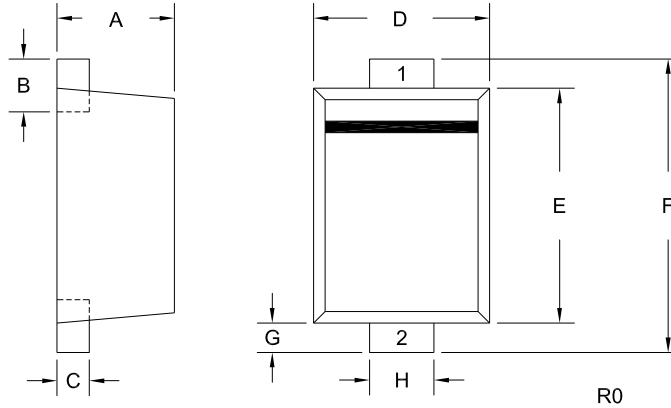
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_R	$V_R=50V$			300	nA
I_R	$V_R=50V, T_A=125^\circ C$			100	μA
I_R	$V_R=100V$			500	nA
BV_R	$I_R=100\mu A$	120	150		V
V_F	$I_F=1.0mA$	0.55	0.59	0.65	V
V_F	$I_F=10mA$	0.67	0.72	0.77	V
V_F	$I_F=100mA$	0.85	0.91	1.0	V
C_T	$V_R=0, f=1.0MHz$			2.0	pF
t_{rr}	$I_R=I_F=10mA,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

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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 (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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