

## STEERING DIODE ARRAY

### APPLICATIONS

- ✓ High Frequency Data Lines
- ✓ RS-232 & RS-422 Interface Networks
- ✓ Ethernet - 10/100 Base T
- ✓ Computer I/O Ports

### IEC COMPATIBILITY (EN61000-4)

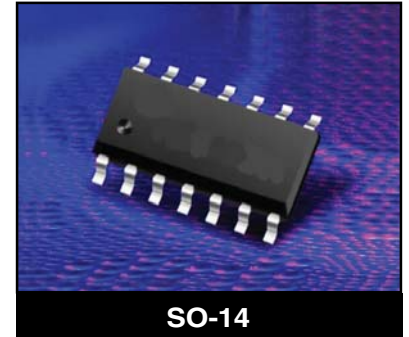
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s Level 2(Line-Ground) & Level 3(Line-Line)

### FEATURES

- ✓ 500 Milliwatt Continuous Power Dissipation
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Insertion Loss & Cross-Talk
- ✓ Provides Protection for 8 I/O Lines
- ✓ Working Voltage > 50 Volts
- ✓ Low Leakage Current < 0.1 $\mu$ A
- ✓ Ultra Low Capacitance: 5pF Per Diode
- ✓ RoHS Compliant

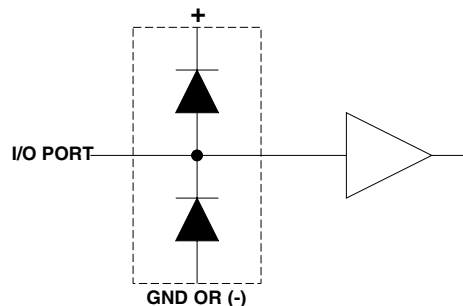
### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-14 Package
- ✓ Weight 0.15 grams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ 16mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package



SO-14

### PIN CONFIGURATION



# PMMAD SERIES

## DEVICE CHARACTERISTICS

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

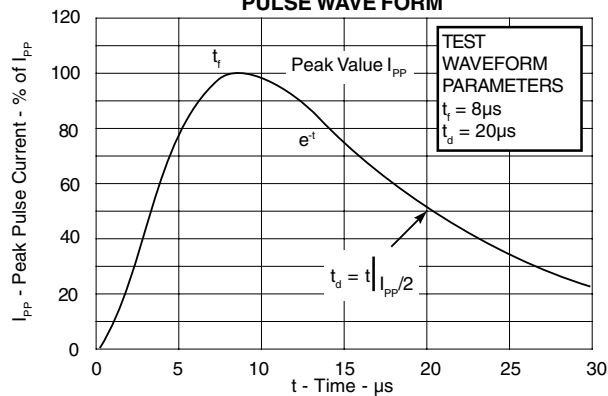
PARAMETER	SYMBOL	VALUE	UNITS
Continuous Power Dissipation	$P_{PK}$	500	Milliwatts
Continuous Forward Current (Single Diode)	$I_P$	400	mA
Repetitive Peak Forward Current @ $t_p = 5\mu s$ , $F = 50kHz$	$I_{FRM}$	700	mA
Operating Temperature	$T_A$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C

### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	REPETITIVE PEAK REVERSE VOLTAGE  @ 10 $\mu A$ $V_{RRM}$ VOLTS	MAXIMUM FORWARD PEAK PULSE CURRENT  @ 8/20 $\mu s$ $I_{FM}$ AMPS	MAXIMUM FORWARD VOLTAGE  @ 100mA $V_F$ VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT  $V_{RRM}$ @ 40V $I_R$ $\mu A$	MAXIMUM CAPACITANCE (Per Diode)  @ 4V, 1MHz $C_j$ pF
See Note 1	50	40	1.2	0.1	5

**Note 1:** Device types include: PMMAD1103, MMAD1105, PMMAD1106 and PMMAD1109. Electrical characteristics apply to all device types.

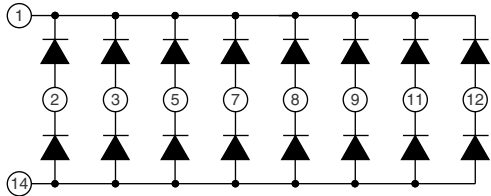
**FIGURE 1  
PULSE WAVE FORM**



# PMMAD SERIES

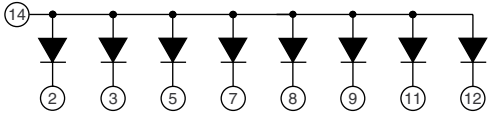
## PIN CONFIGURATIONS

**MMAD1103**



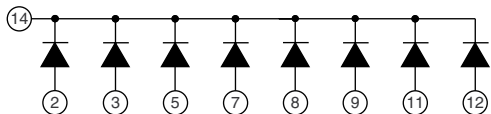
**16 DIODE ARRAY**  
NC PINS 4, 6, 10 & 13  
8 LINES OF PROTECTION

**MMAD1106**



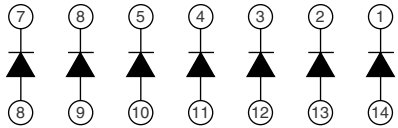
**8 DIODE COMMON ANODE ARRAY**  
NC PIN 1, 4, 6, 10 & 13  
8 LINES OF PROTECTION

**MMAD1105**



**8 DIODE COMMON CATHODE ARRAY**  
NC PINS 1, 4, 6, 10 & 13  
8 LINES OF PROTECTION

**MMAD1109**



**7 ISOLATED DIODE ARRAY (INDEPENDENT)**  
7 LINES OF PROTECTION

# PMMAD SERIES

## SO-14 PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

$\oplus 0.010'' (0.25 \text{ MM})$  (M) B (M)  
 7 PL

$\oplus 0.010'' (0.25 \text{ MM})$  (M) T B (S) A (S)  
 8 PL

### SO-14

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.55	10.00	0.386	0.393
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.25	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

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### MOUNTING PAD

$0.050'' \text{ TYP}$   
 $0.160'' \pm 0.005''$   
 $0.030'' \pm 0.005''$   
 $0.245'' \text{ MIN}$   
 $0.045'' \pm 0.005''$

### NOTES

- T = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusions.
- Maximum mold protrusion is 0.015" (0.380 mm) per side.
- Dimensioning and tolerances per ANSI Y14.5M, 1982.
- Dimensions are exclusive of mold flash and metal burrs.

### TAPE & REEL/BULK ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T7 = 7 Inch Reel - 1,000 pieces per 16mm tape, i.e., *PMMAD1107-T7*.
- Suffix-T13 = 13 Inch Reel - 2,500 pieces per 16mm tape, i.e., *PMMAD1107-T13*.
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., *PMMAD1107-LF-T13*.
- No Suffix = Product Shipped in Tubes of 55 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06006**

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