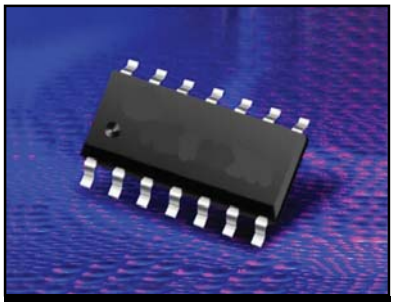
PROTEK DEVICES

PMMAD SERIES

STEERING DIODE ARRAY



SO-14

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, 8/20µs Level 2(Line-Ground) & Level 3(Line-Line)

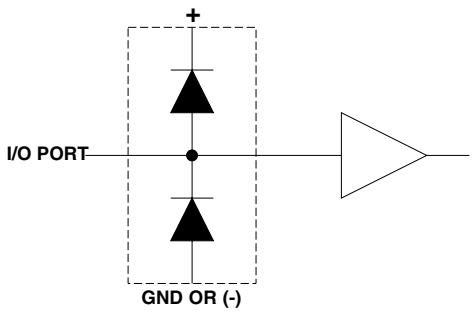
FEATURES

✔ 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 < 0.1µA
✔ 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

PIN CONFIGURATION



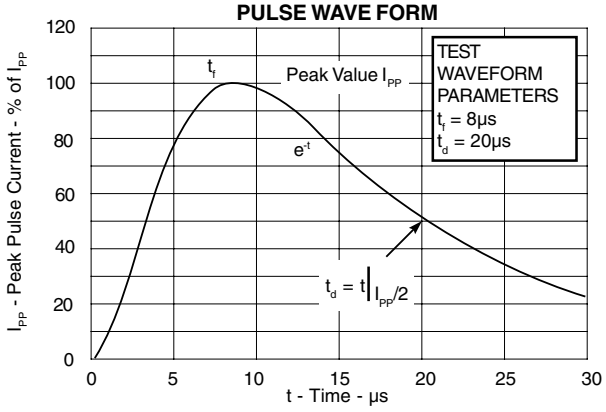
DEVICE CHARACTERISTICS

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 = 5µs, 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 @ 10µA V_{RRM} VOLTS	MAXIMUM FORWARD PEAK PULSE CURRENT @ 8/20µs I_{FM} AMPS	MAXIMUM FORWARD VOLTAGE @ 100mA V_F VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT V_{RRM} @ 40V I_R µA	MAXIMUM CAPACITANCE (Per Diode) @ 4V, 1MHz C_J pF
See Note 1	50	40	1.2	0.1	5

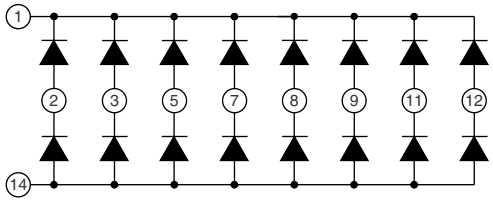
Note 1: Device types include: PMMAD1103, MMAD1105, PMMAD1106 and PMMAD1109. Electrical characteristics apply to all device types.

FIGURE 1
PULSE WAVE FORM



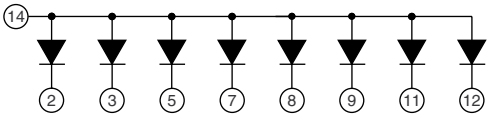
PIN CONFIGURATIONS

MMAD1103



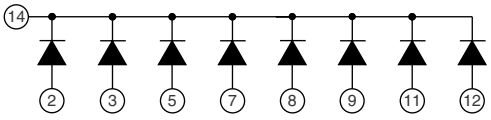
16 DIODE ARRAY
NC PINS 4, 6, 10 & 13
8 LINES OF PROTECTION

MMAD1106



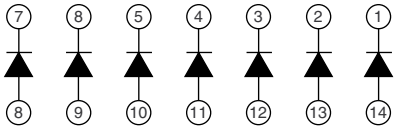
8 DIODE COMMON ANODE ARRAY
NC PIN 1, 4, 6, 10 & 13
8 LINES OF PROTECTION

MMAD1105



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

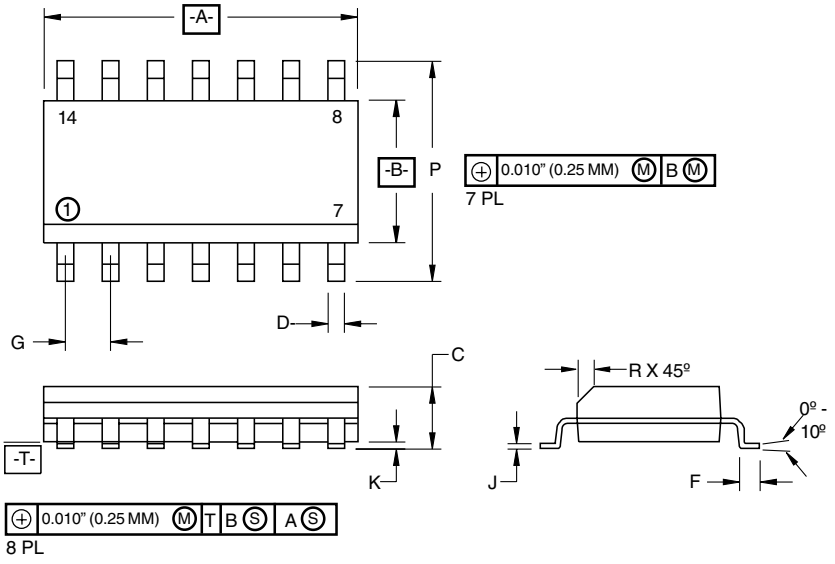
MMAD1109



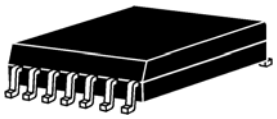
7 ISOLATED DIODE ARRAY
(INDEPENDENT)
7 LINES OF PROTECTION

SO-14 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



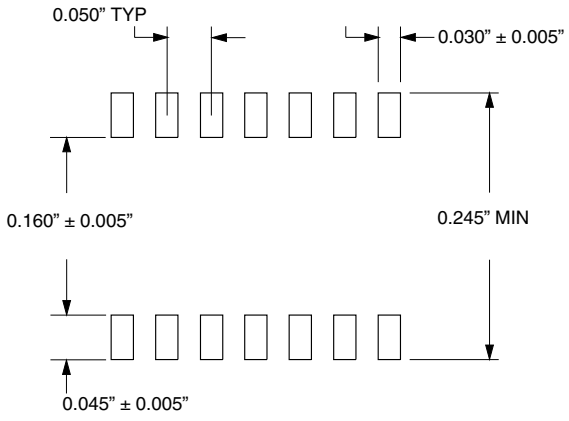
SO-14



PACKAGE DIMENSIONS

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

MOUNTING PAD



NOTES

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

TAPE & REEL/BULK ORDERING NOMENCLATURE

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

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

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