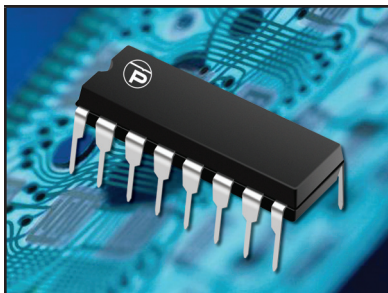


ULTRA LOW CAPACITANCE MULTI-LINE STEERING DIODE ARRAY



16 PIN DIP PACKAGE

DESCRIPTION

The MAD1108 is a low distortion steering diode. This device is intended for use in high frequency analog or digital data I/O ports for protection against Electrostatic Discharge (ESD) and Electrical Fast Transients (EFT). The MAD1108 is connected between rail-to-rail voltage bus or rail-to-ground for clamping and diverting overvoltage transients for the protection of sensitive network interface circuits.

This device provides low capacitance, which insures signal integrity up to 900MHz, while complete isolation between adjacent diodes keeps cross-talk to a minimum. The MAD1108 is available in a 16 pin DIP and meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20 μ s - Level 2(Line-Gnd) & Level 3(Line-Line)
- 500 Milliwatt Continuous Power Dissipation
- Monolithic Design
- ESD Protection > 25 kilovolts
- Protects up to 8 I/O Lines
- Working Voltage > 50 Volts
- Low Leakage Current < 0.1 μ A
- Ultra Low Capacitance: 5pF per Diode
- RoHS Compliant
- REACH Compliant

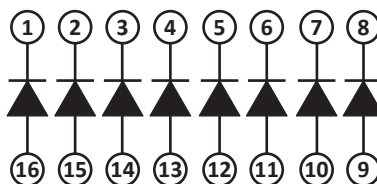
APPLICATIONS

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

MECHANICAL CHARACTERISTICS

- Molded 16 Pin Dual-In-Line (DIP) Package
- Approximate Weight: 1.2 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

PIN CONFIGURATION



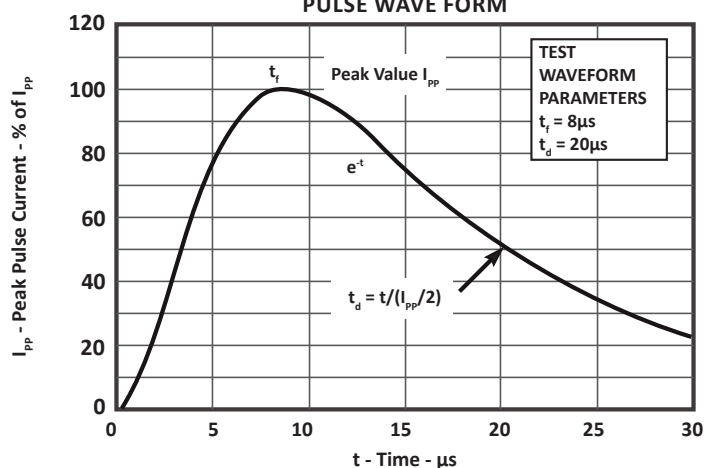
8 LINES OF PROTECTION

TYPICAL 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 μA V_{RRM} VOLTS	MAXIMUM FORWARD PEAK PULSE CURRENT @ 8/20 μs 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
MAD1108	50	12	1.2	0.1	5

**FIGURE 1
PULSE WAVE FORM**


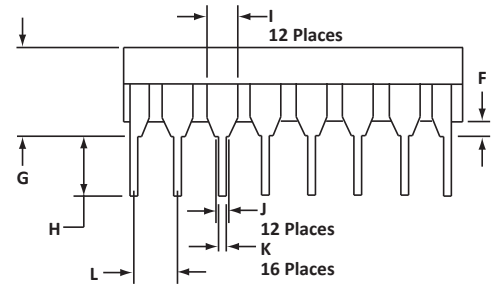
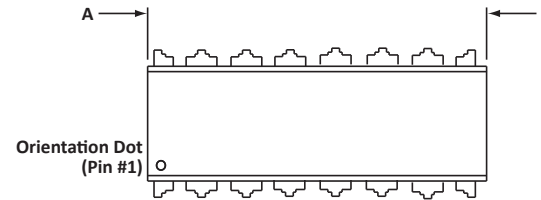
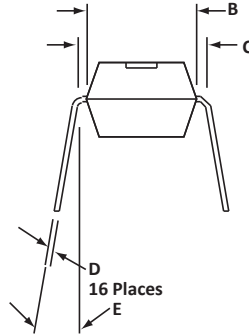
16 PIN DIP PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	18.80	19.55	0.740	0.770
B	6.35	6.85	0.250	0.270
C	7.50	7.74	0.295	0.305
D	0.21	0.38	0.008	0.015
E	0°	10°	0°	10°
F	0.51	1.01	0.020	0.040
G	3.69	4.44	0.145	0.175
H	2.80	3.30	0.110	0.130
I	1.02	1.77	0.040	0.070
J	1.27	1.27	0.050	0.050
K	0.39	0.53	0.015	0.021
L	2.54	2.54	0.100	0.100

NOTES

- Dimensions are exclusive of mold flash and metal burrs.
- Dimensions "J" and "L" are between centers.



ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
MAD1108	-LF	n/a	n/a	n/a	25

NOTES

- Marking on Part - logo, part number, date code and pin one defined by dot on top of package.

Package outline specifications per document number 06003.R2 9/09.

COMPANY INFORMATION

COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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