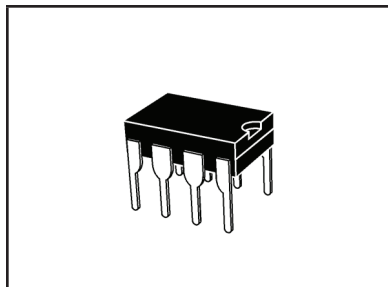


## HIGH POWERED MULTI-LINE TVS ARRAY



**8 PIN DIP PACKAGE**

### DESCRIPTION

The DA8 Series are high powered multi-line TVS arrays available in a 8 pin DIP package. This series is designed to protect monitoring and industrial equipment from the damaging effects of ESD, EFT and secondary transient threats.

The DA8 Series has a peak pulse power rating of 800 Watts for an 8/20 $\mu$ s waveshape. This devices 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 $\mu$ s - Level 2(Line-Gnd) & Level 3(Line-Line)
- 800 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu$ s)
- Unidirectional & Bidirectional Configurations
- ESD Protection > 25 kilovolts
- Available in Multiple Voltages
- Protects 4 to 6 Lines
- RoHS Compliant
- REACH Compliant

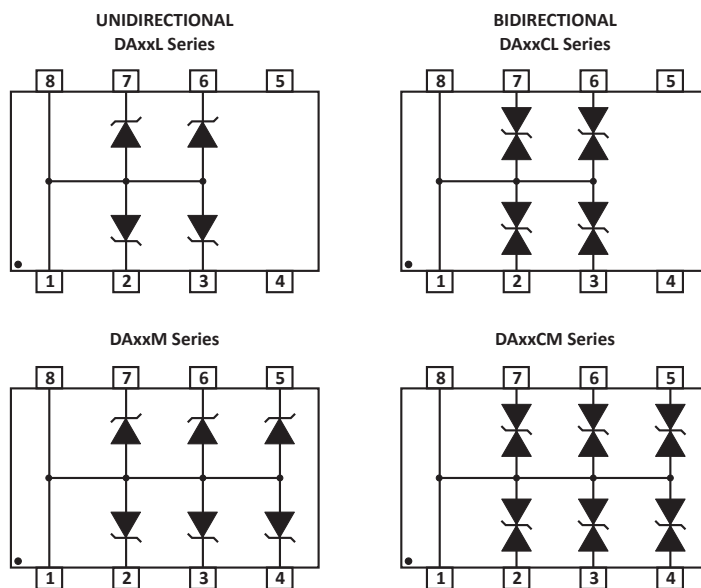
### APPLICATIONS

- Low Frequency I/O Ports
- RS-232 & RS-423 Data Lines
- Power Bus Lines
- Monitoring & Industrial Signal & Data Ports
- Microprocessor Based Equipment

### MECHANICAL CHARACTERISTICS

- Molded 8 Pin Dual-In-Line (DIP) Package
- Approximate Weight: 0.55 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

## PIN CONFIGURATIONS



**TYPICAL DEVICE CHARACTERISTICS**
**MAXIMUM RATINGS @ 25°C Unless Otherwise Specified**

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	800	Watts
Operating Temperature	T <sub>L</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C
Forward Surge Rating	I <sub>F</sub>	10	Amps

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

PART NUMBER (Note 1)	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		@1mA V <sub>(BR)</sub> VOLTS	@ IP = 10A V <sub>C</sub> VOLTS	@ 8/20μs V <sub>C</sub> @ I <sub>PP</sub>	@V <sub>WM</sub> I <sub>D</sub> μA	@0V, 1MHz C pF
DA05L	5.0	6.0	12.5	24.6V @ 45.0A	200	880
DA05M	5.0	6.0	12.5	24.6V @ 45.0A	200	880
DA05CL	5.0	6.0	12.5	24.6V @ 45.0A	200	500
DA05CM	5.0	6.0	12.5	24.6V @ 45.0A	200	500
DA12L	12.0	13.3	26.0	32.9V @ 34.0A	2	440
DA12M	12.0	13.3	26.0	32.9V @ 34.0A	2	440
DA12CL	12.0	13.3	26.0	32.9V @ 34.0A	2	385
DA12CM	12.0	13.3	26.0	32.9V @ 34.0A	2	385
DA15L	15.0	16.7	33.0	37.7V @ 27.0A	2	400
DA15M	15.0	16.7	33.0	37.7V @ 27.0A	2	400
DA15CL	15.0	16.7	33.0	37.7V @ 27.0A	2	300
DA15CM	15.0	16.7	33.0	37.7V @ 27.0A	2	300
DA24L	24.0	26.7	52.1	53.0V @ 20.0A	2	275
DA24M	24.0	26.7	52.1	53.0V @ 20.0A	2	275
DA24CL	24.0	26.7	52.1	53.0V @ 20.0A	2	200
DA24CM	24.0	26.7	52.1	53.0V @ 20.0A	2	200

**NOTES**

1. The "C" suffix denotes a bidirectional device, such as DA05CL.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

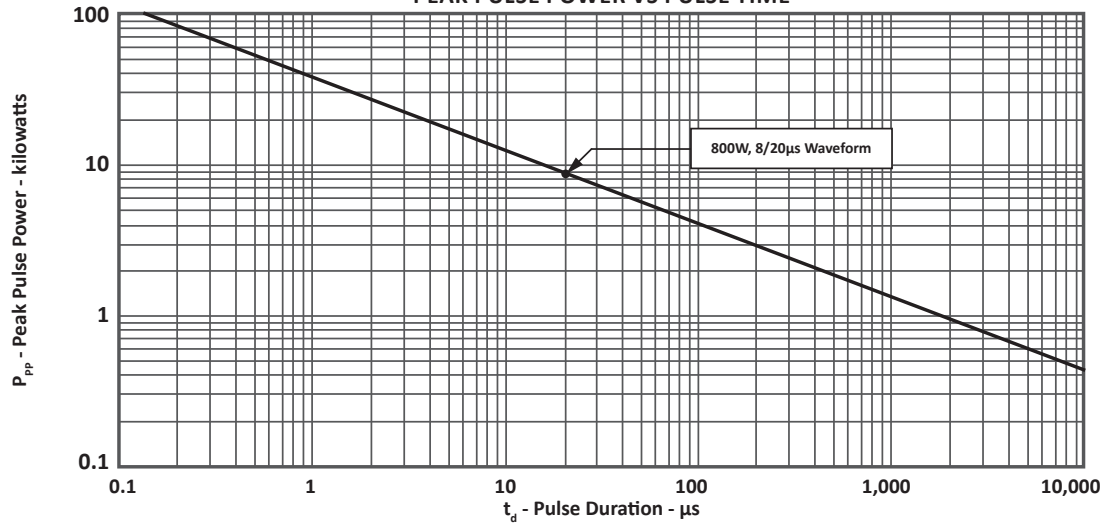


FIGURE 2  
PULSE WAVE FORM

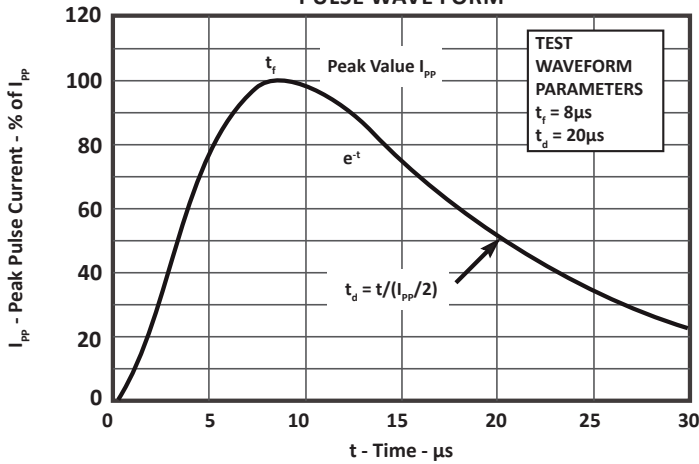
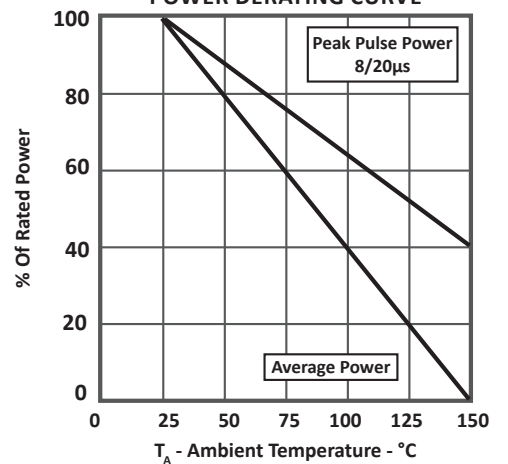


FIGURE 3  
POWER DERATING CURVE



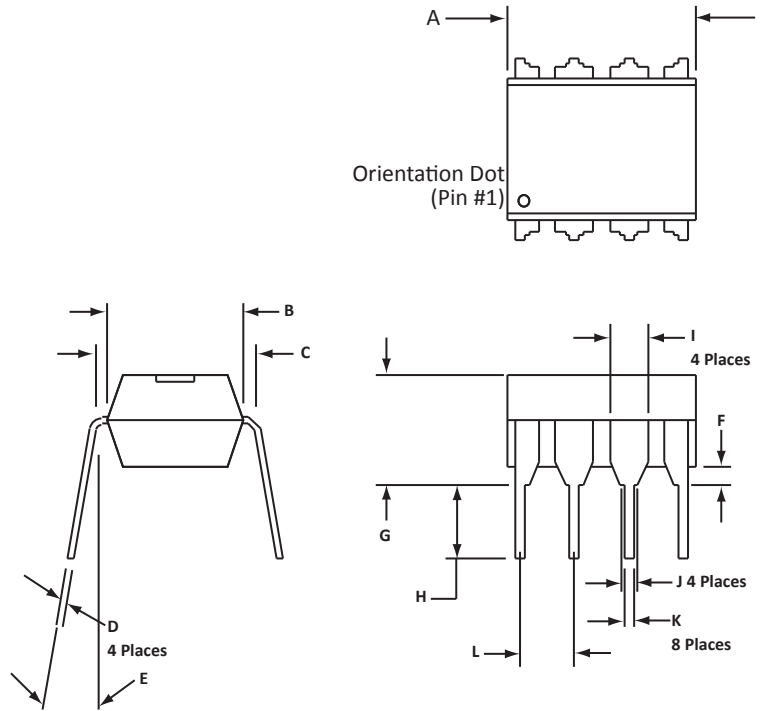
## 8 PIN DIP PACKAGE INFORMATION

### OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.4	10.2	0.370	0.400
B	6.10	6.60	0.240	0.260
C	7.62	8.26	0.300	0.325
D	0.20	0.30	0.008	0.012
E	0°	10°	0°	10°
F	0.38	0.51	0.015	0.020
G	4.80	5.08	0.189	0.200
H	2.92	3.43	0.115	0.135
I	1.02	1.78	0.040	0.070
J	0.84	0.84	0.033	0.033
K	0.38	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 (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
DAxxL	-LF	n/a	n/a	n/a	50
DAxxM	-LF	n/a	n/a	n/a	50
DAxxCL	-LF	n/a	n/a	n/a	50
DAxxCM	-LF	n/a	n/a	n/a	50

#### NOTES

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

Package outline per document number 06004.R2 9/09.

## COMPANY INFORMATION

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### 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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