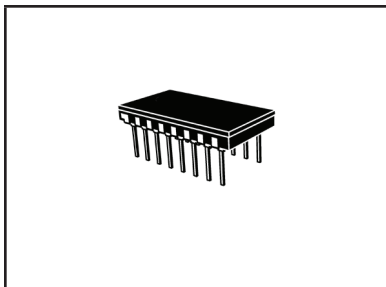


## HIGH POWERED MULTI-LINE TVS ARRAY



16 PIN CDIP PACKAGE

### DESCRIPTION

The DLZ Series of silicon transient voltage suppressors (TVS) are available in a ceramic, hermetically sealed dual-in-line package. This series is designed to protect aerospace, standard TTL and MOS bus lines in applications where NEMP, ESD and other induced voltage surges can damage or upset voltage sensitive circuitry.

The DLZ Series has a peak pulse power rating of 1,300 Watts for an 8/20 $\mu$ s waveshape. This device 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)
- MIL-STD-461 Compatible
- Satisfies Military NEMP Requirements
- 1,300 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu$ s)
- Unidirectional & Bidirectional Configurations
- ESD Protection > 25 kilovolts
- Internal Common Ground
- Available in Multiple Voltages
- Protects up to 15 Lines
- RoHS Compliant
- REACH Compliant

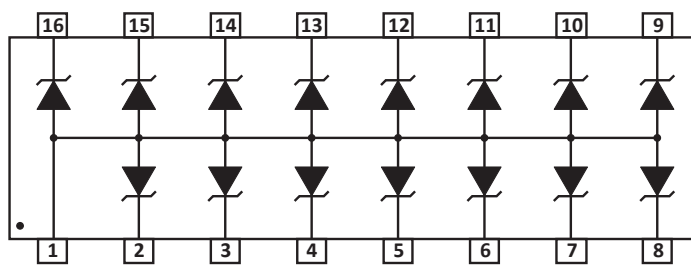
### APPLICATIONS

- Military & Aerospace Data Line Protection
- RS-232 & RS-423 Data Lines
- Microprocessor Based Equipment
- Multiple Data & Power Bus Line Protection

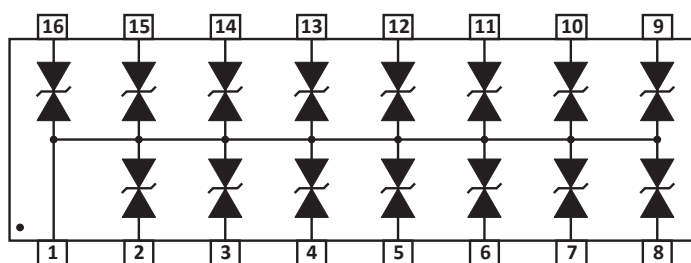
### MECHANICAL CHARACTERISTICS

- Hermetically Sealed Ceramic 16 Pin Dual-In-Line (DIP) Package
- Approximate Weight: 3.2 grams
- Flammability Rating UL 94V-0
- Screening Per MIL-PRF-19500 Available Upon Request:
  - H1 - 100 % Screening (Test Plans 05227 & 05229)
  - H2 - 100% Screening (05228 & 05230)
- Screening to DESC Drawing 94029 (Bidirectional) and 94030 (Unidirectional)

### PIN CONFIGURATIONS



UNIDIRECTIONAL



BIDIRECTIONAL

**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>	1,300	Watts
Operating Temperature	T <sub>L</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C
Forward Surge Rating (1/120 seconds) Unidirectional	I <sub>F</sub>	10	Amps

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

PART NUMBER (Note 1-2)	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM CAPACITANCE	TEMPERATURE COEFFICIENT OF V <sub>(BR)</sub>
	V <sub>WM</sub> VOLTS	@1mA V <sub>(BR)</sub> VOLTS	@ IP = 1A V <sub>C</sub> VOLTS	@ IP = 10A V <sub>C</sub> VOLTS	@V <sub>WM</sub> I <sub>D</sub> μA	@0V, 1MHz C pF	qV <sub>(BR)</sub> mV/°C
DLZ-5	5.0	6.0	10.2	12.5	200	880	5
DLZ-5A	5.0	6.0	9.5	10.6	200	880	5
DLZ-12	12.0	13.3	21.1	26.0	2	440	18
DLZ-12A	12.0	13.3	19.1	23.5	2	440	18
DLZ-17	17.0	19.2	30.4	37.4	2	330	20
DLZ-17A	17.0	19.2	27.5	33.9	2	330	20
DLZ-24	24.0	26.7	42.3	52.1	2	275	31
DLZ-24A	24.0	26.7	38.3	47.2	2	275	31
DLZ-30	30.0	33.3	52.8	65.0	2	220	39
DLZ-30A	30.0	33.3	47.8	58.8	2	220	39
DLZ8C	8.0	8.5	13.4	16.6	10	440	9
DLZ-13C	13.0	14.4	22.8	28.1	4	385	18
DLZ-13CA	13.0	14.4	20.6	25.4	4	385	18
DLZ-19C	19.0	21.6	34.2	42.1	4	275	24
DLZ-19CA	19.0	21.6	31.0	38.1	4	275	24
DLZ-30C	30.0	33.3	52.8	65.0	4	165	39
DLZ-30CA	30.0	33.3	47.8	58.8	4	165	39

**NOTES**

- Part numbers with a "C" suffix are bidirectional devices, i.e., DLZ-8C.
- t<sub>clamping</sub> (0V to V<sub>BR</sub> min): Less than 1x10<sup>-12</sup> seconds (10x10<sup>-9</sup> seconds bidirectional).

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

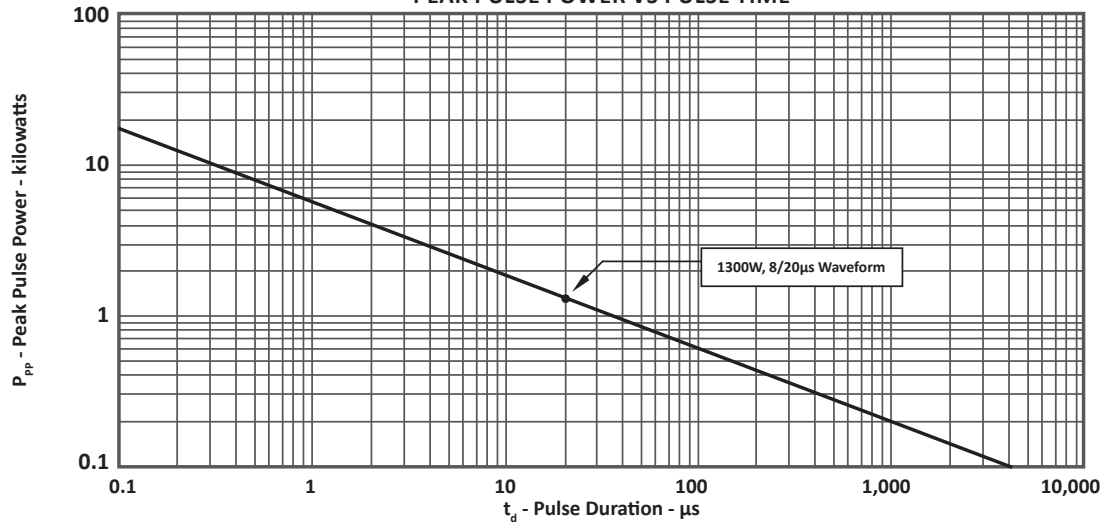


FIGURE 2  
PULSE WAVE FORM

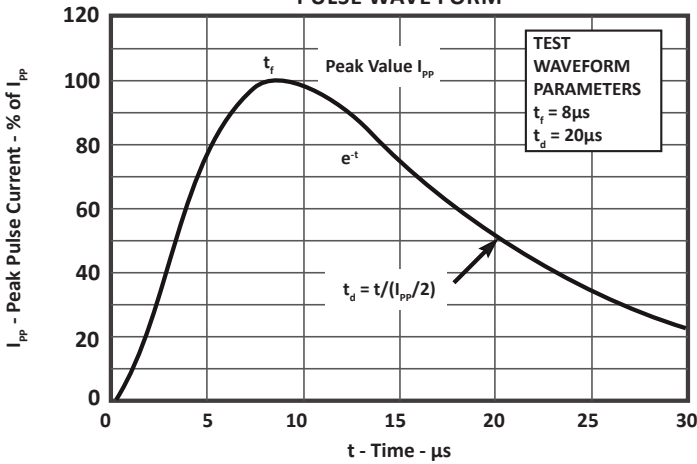
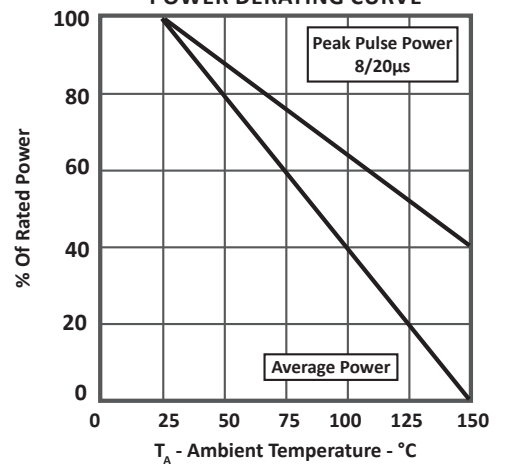


FIGURE 3  
POWER DERATING CURVE

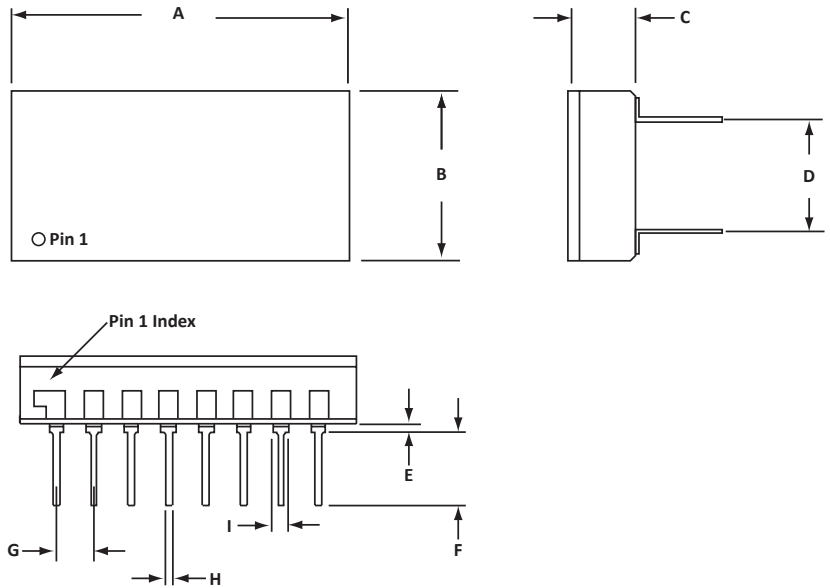


## 16 PIN CDIP PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	22.72	23.48	0.895	0.925
B	11.43	12.19	0.450	0.480
C	-	4.87	-	0.192
D	7.36	7.84	0.290	0.310
E	-	0.635	-	0.025
F	4.19	5.21	0.165	0.205
G	2.42	2.66	0.095	0.105
H	0.33	0.57	0.023	0.013
I	0.88	1.12	0.035	0.045

**NOTES**

- Dimensions are exclusive of mold flash and metal burrs.
- Controlling dimensions in inches.
- Package sealed with ceramic or metal lid.



## ORDERING INFORMATION

BASE PART NUMBER (xx = Voltage)	SCREENED	SCREENED & GROUP B
DLZ-xxxx	H1	H2

**NOTES**

- Marking on Part - logo, part number, date code and pin one defined by flag on lead.

Package outline per document number 06029.R1 9/09

## COMPANY INFORMATION

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### COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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