

## LOW CAPACITANCE VSIP® TVS ARRAY



10 PIN VSIP® PACKAGE

### DESCRIPTION

The VS10P03LC is a low voltage, low capacitance TVS array available in a 10 pin VSIP package. This device is designed to protect telecommunications equipment from the damaging effects of ESD, EFT and secondary transient threats.

The VS10P03LC has a peak pulse power rating of 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)
- 300 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- Bidirectional Configuration
- ESD Protection > 25 kilovolts
- Protects 4 Bidirectional Lines
- Low Capacitance: 15pF
- RoHS Compliant
- REACH Compliant

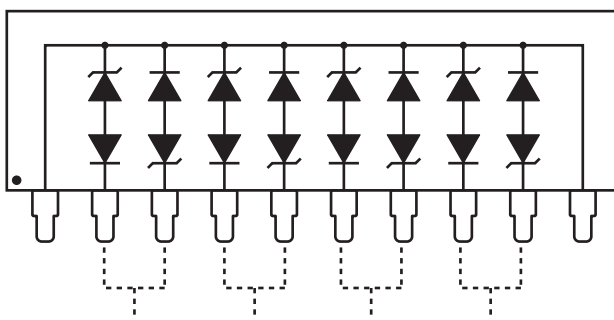
### APPLICATIONS

- RS-232 & RS-485 Data Lines
- ATM Circuit Interfaces
- xDSL Interfaces
- Ethernet & Token Ring
- I/O Port Protection

### MECHANICAL CHARACTERISTICS

- Molded 10 Pin Plastic VSIP® Package
- Approximate Weight: 1.5 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

### PIN CONFIGURATION



**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>	300	Watts
Operating Temperature	T <sub>L</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

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

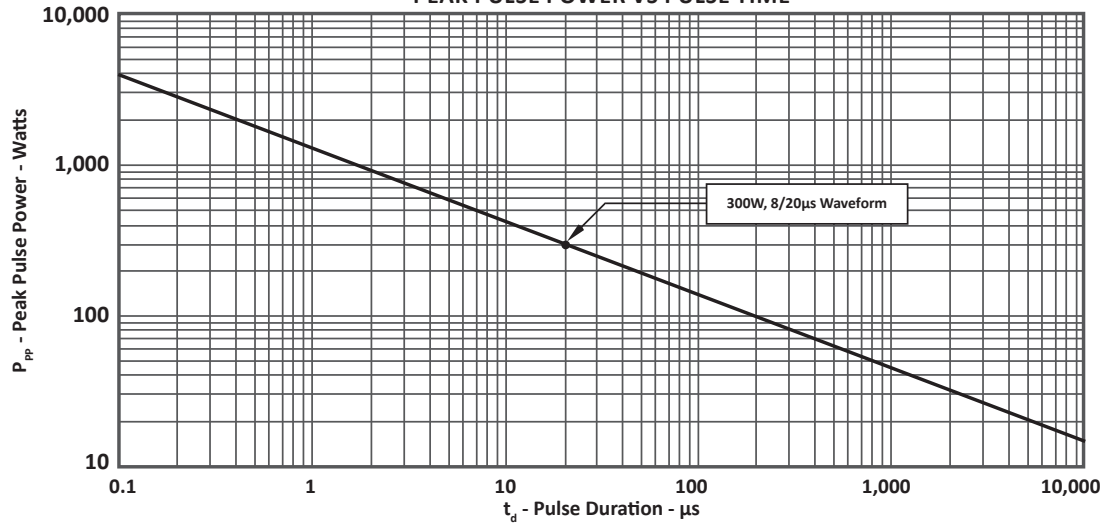
PART NUMBER (Note 1)	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @1mA V <sub>(BR)</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2)  @ IP = 5A V <sub>C</sub> VOLTS	MAXIMUM LEAKAGE CURRENT  @V <sub>WM</sub> I <sub>D</sub> μA	MAXIMUM CAPACITANCE  @ 0V, 1MHz C pF
VS10P03LC	3.3	4.5	9.0	125	15

**NOTES**

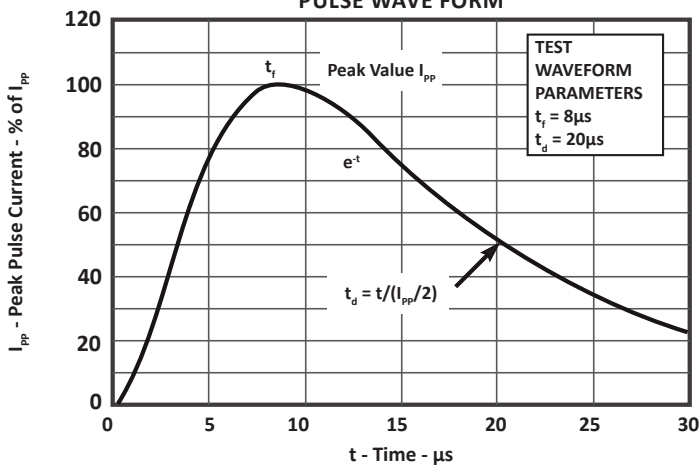
1. Do not surge from pins 2 to 1, 1 to 3, 4 to 1, 1 to 5, 6 to 1, 1 to 7, 8 to 1 and 1 to 9. PIV typically greater than 100 Volts for each rectifier diode.

**TYPICAL DEVICE CHARACTERISTICS**

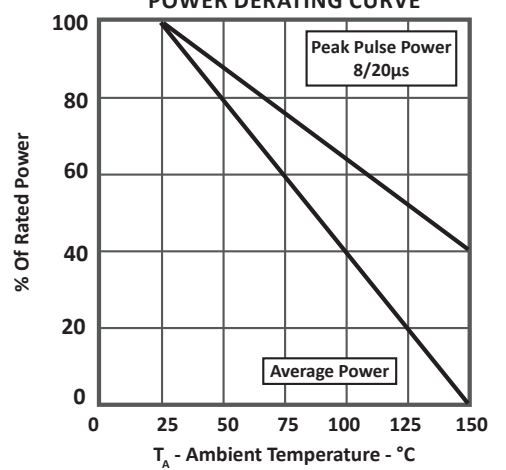
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2**  
**PULSE WAVE FORM**



**FIGURE 3**  
**POWER DERATING CURVE**



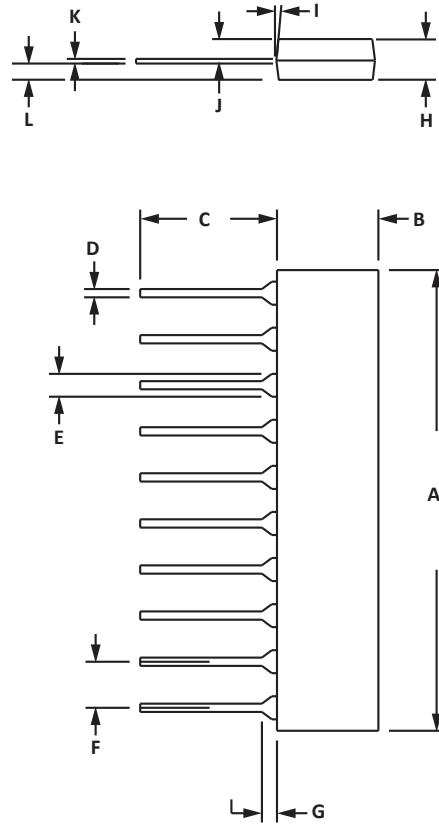
## 10 PIN VSIP PACKAGE INFORMATION

### OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	25.65	26.01	1.01	1.024
B	5.68	6.45	0.244	0.254
C	5.92	6.73	0.233	0.265
D	0.406	0.508	0.016	0.020
E	1.27	1.65	0.05	0.065
F	2.49	2.59	0.098	0.102
G	0.38	1.40	0.015	0.055
H	2.65	3.17	0.104	0.125
I	7° TYP	7° TYP	7° TYP	7° TYP
J	1.47	1.98	0.058	0.078
K	0.20	0.30	0.008	0.012
L	0.81	1.57	0.032	0.062

#### NOTES

- Dimensions are exclusive of mold flash and metal burrs.
- Controlling dimensions in inches.



### ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
VS10P03LC	-LF	n/a	n/a	n/a	18

#### NOTES

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

Package outline per document number 06017.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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