

VSIP® TVS DIODE ARRAY
APPLICATIONS

- ✓ RS-232 and RS-423 Data Lines
- ✓ Telecommunications T/R Protection:
ISDN, ADSL, V.34/V90, HDLC, T1/E1 and T3/E3
- ✓ Low and High Speed Data Lines: Ethernet, Token Ring, USB, and Fire Wire
- ✓ I/O Port Protection

IEC COMPATIBILITY (EN61000-4)

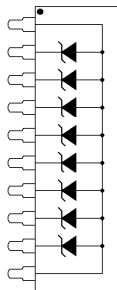
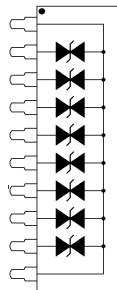
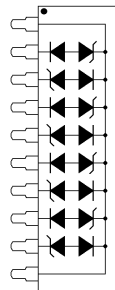
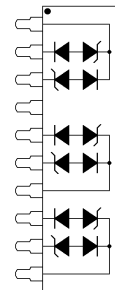
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line)

FEATURES

- ✓ Series A: 800 Watts Peak Pulse Power per Line ($t_p = 8/20 \mu s$)
- ✓ Series B: 3,400 Watts Peak Pulse Power per Line ($t_p = 8/20 \mu s$)
- ✓ ESD Protection > 40 kilovolts
- ✓ Protection for 8 to 9 Bidirectional Data Lines
- ✓ High Surge Capability & Low Capacitance Option
- ✓ Available in 5 Voltage Types Ranging from 5.0V to 24V

MECHANICAL CHARACTERISTICS

- ✓ Molded Plastic Package
- ✓ Weight 1.5 grams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ Device Marking: Part Number, Logo & Pin 1 Indicated By DOT on Package


CIRCUIT DIAGRAMS
UNIDIRECTIONAL

BIDIRECTIONAL

LOW CAPACITANCE

**ISOLATED
LOW CAPACITANCE**


DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Series A Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	800	Watts
Series B Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	3400	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified									
RATED STAND-OFF VOLTAGE (See Notes 1-3)	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	SERIES A				SERIES B			
		MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM PEAK PULSE CURRENT (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM PEAK PULSE CURRENT (See Fig. 2)
		@ $I_p = 1A$ V_C VOLTS	@ $I_p = 10A$ V_C VOLTS	@ V_{WM} I_D AMPS	I_{PP} AMPS	@ $I_p = 1A$ V_C VOLTS	@ $I_p = 10A$ V_C VOLTS	@ V_{WM} I_D AMPS	I_{PP} AMPS
5.0	6.0	9.8	12.5	100	45	8.6	9.1	300	300
8.0	8.5	13.4	16.6	10	40	10.9	12.0	200	258
12.0	13.3	19.5	22.7	1	34	17.0	18.8	2	184
15.0	16.7	24.4	28.5	1	27	21.4	23.6	2	147
24.0	26.7	39.1	45.6	1	22	34.2	37.8	2	93

Note 1: For voltage types not shown on the product data sheet, consult the factory.

Note 2: The low capacitance configuration values for each bidirectional line pair is as follows:

Series "A" C = 25pF Series "B" C = 100pF

Note 3: Forward voltage (unidirectional configurations only):

Series "A": $V_F = 1.5V$ @ 200mA Series "B": $V_F = 1.5V$ 200mA

STANDARD PRODUCT ORDERING BY PART NUMBER

Unidirectional - VS10Pxx (A Series), VSBP10Pxx (B Series)

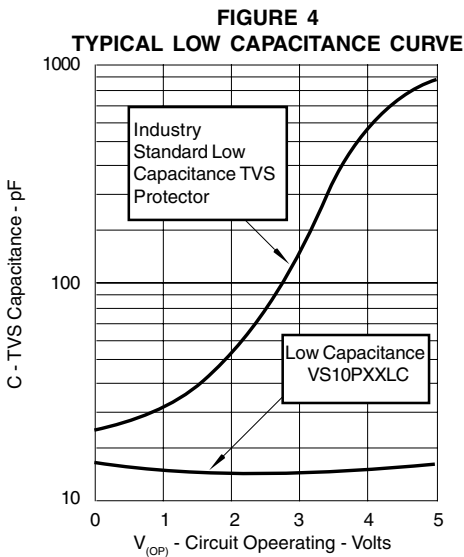
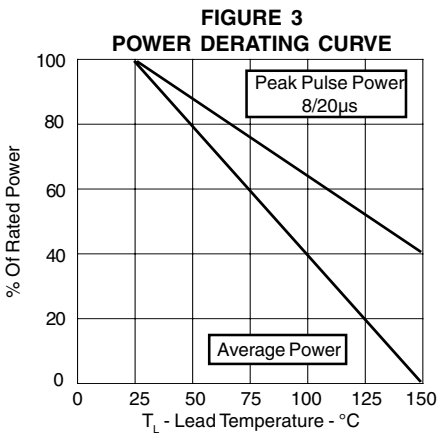
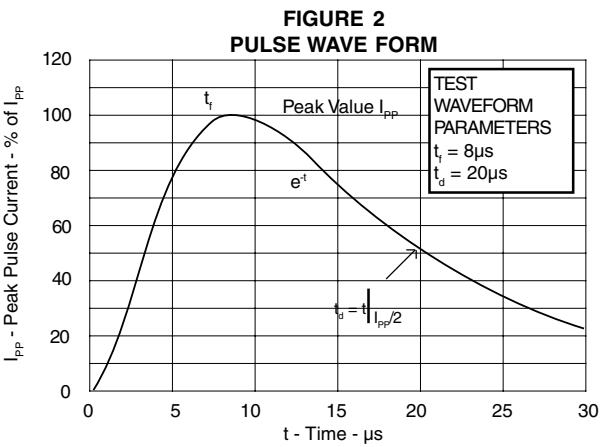
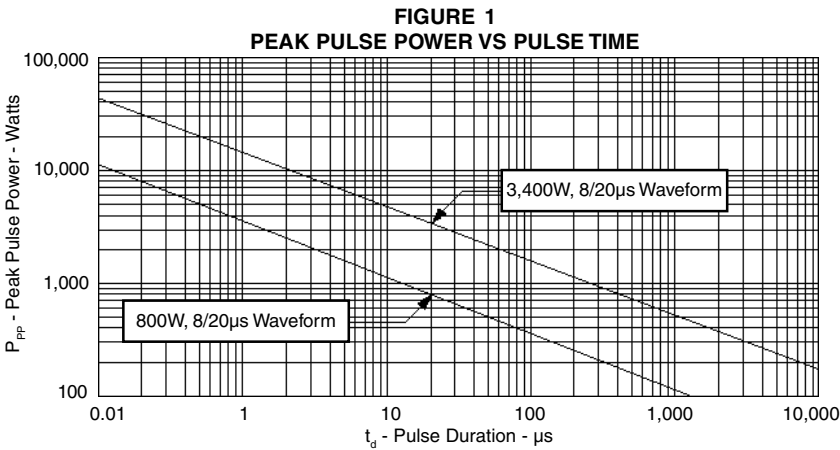
Bidirectional - VS10PxxC (A Series), VSBP10PxxC (B Series)

Low Capacitance - VS10PxxLC (A Series), VSBP10PxxLC (B Series)

Isolated Low Capacitance- VS10PxxLCI (A Series), VSBP10PxxLCI (B Series)

xx = Selected Voltage

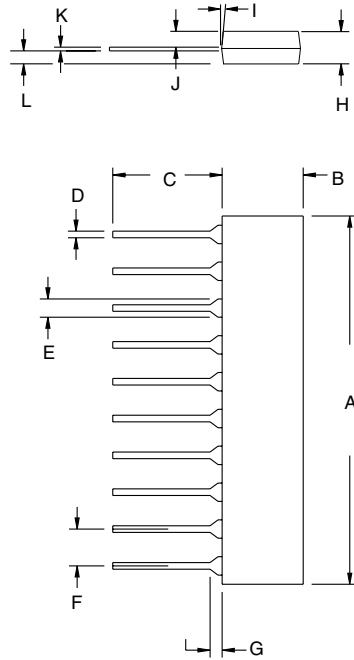
GRAPHS



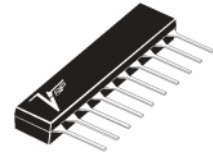
VSIP® SERIES A & B

PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



VSIP PACKAGE



VSIP DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	25.81	26.01	1.016	1.024
B	6.25	6.45	0.246	0.254
C	5.92	6.02	0.233	0.237
D	0.406	0.508	0.016	0.020
E	1.47	1.57	0.058	0.062
F	2.49	2.59	0.098	0.102
G	0.38	1.02	0.015	0.040
H	3.20	3.40	0.126	0.134
I	7° TYP	7° TYP	7° TYP	7° TYP
J	1.47	1.57	0.058	0.062
K	0.20	0.30	0.008	0.012
L	1.47	1.57	0.058	0.062

NOTES:

1. Dimensions are exclusive of mold flash and metal burrs.

06016 Rev 1 - 11/01

PACKAGING:

Product Shipped in Tubes of 18 pcs per Tube

ProTek Devices

2929 South Fair Lane, Tempe, AZ 85282

Tel: 602-431-8101 Fax: 602-431-2288

E-Mail: sales@protekdevices.com

Web Site: www.protekdevices.com

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