

VSIP® TVS ARRAY
APPLICATIONS

- ✓ RS-232 and RS-423 Data Lines
- ✓ Telecommunications T/R Protection: ISDN, ADSL, V.34/V.90, HDLC, T1/E1 & T3/E3
- ✓ Low & High Speed Data Lines: Ethernet & Token Ring
- ✓ I/O Port Protection

IEC COMPATIBILITY (EN61000-4)

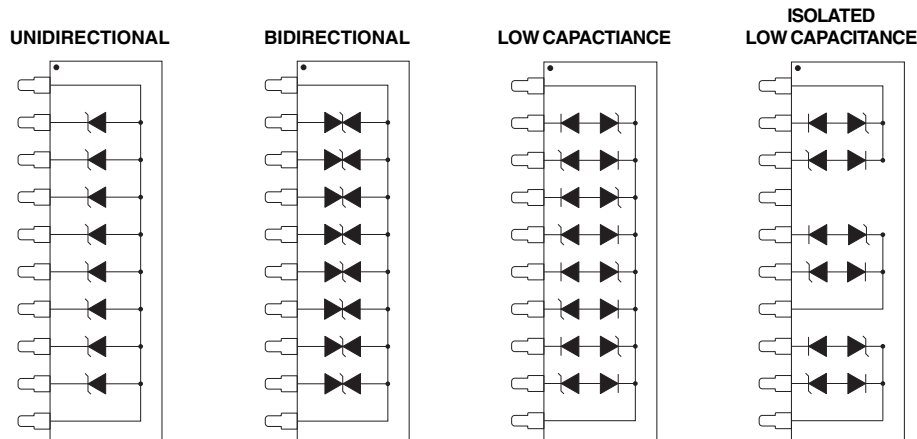
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 μ s - Level 2(Line-Gnd) & Level 3(Line-Line)

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
- ✓ High Surge Capability & Low Capacitance Option
- ✓ Protects 8 to 9 Bidirectional Data Lines
- ✓ Available in Several Voltages Types Ranging from 5V to 36V
- ✓ ROHS Compliant

MECHANICAL CHARACTERISTICS

- ✓ Molded Plastic VSIP® Package
- ✓ Available in Lead-Free Pure-Tin Plating (Annealed)
- ✓ Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Weight 1.5 grams (Approximate)
- ✓ Flammability Rating UL 94V-0
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package


PIN CONFIGURATIONS


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_L	-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)
V_{WM} VOLTS		@ $I_P = 1A$ V_C VOLTS	@ $I_P = 10A$ V_C VOLTS	@ V_{WM} I_D μA	I_{PP} AMPS	@ $I_P = 1A$ V_C VOLTS	@ $I_P = 10A$ V_C VOLTS	@ V_{WM} I_D μA	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	111
28.0	31.1	-	-	-	-	39.8	40.0	2	93
33.0	36.7	-	-	-	-	47.0	51.9	2	83
36.0	40.0	-	-	-	-	51.2	56.6	2	68

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), VSB10Pxx (B Series)

Bidirectional - VS10PxxC (A Series), VSB10PxxC (B Series)

Low Capacitance - VS10PxxLC (A Series), VSB10PxxLC (B Series)

Isolated Low Capacitance- VS10PxxLCI (A Series), VSB10PxxLCI (B Series)

xx = Selected Voltage

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

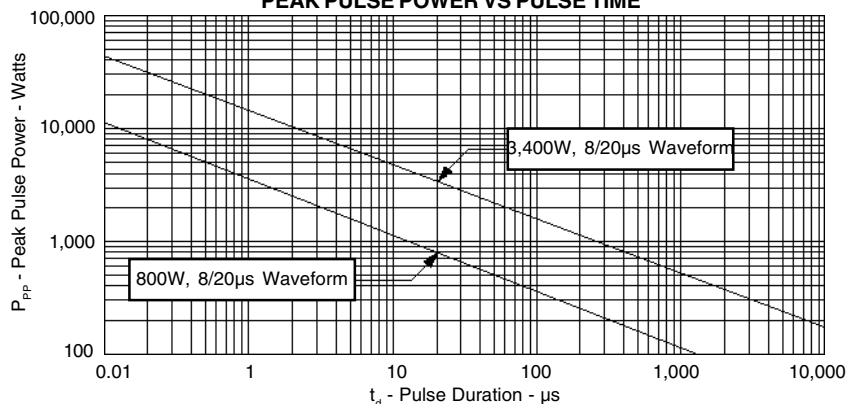


FIGURE 2
PULSE WAVE FORM

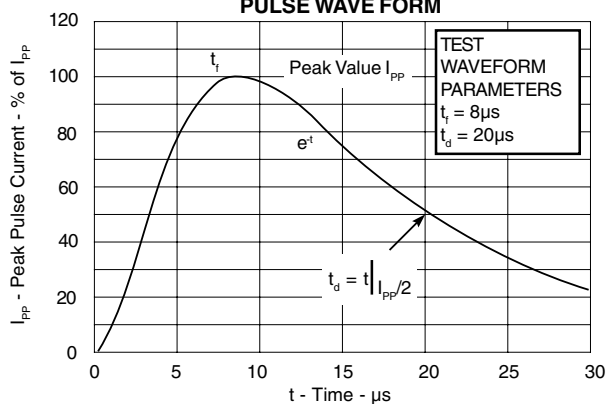


FIGURE 3
POWER DERATING CURVE

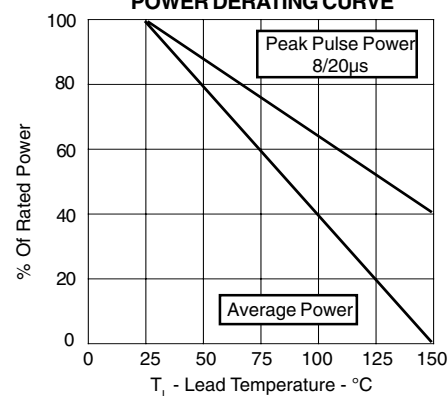
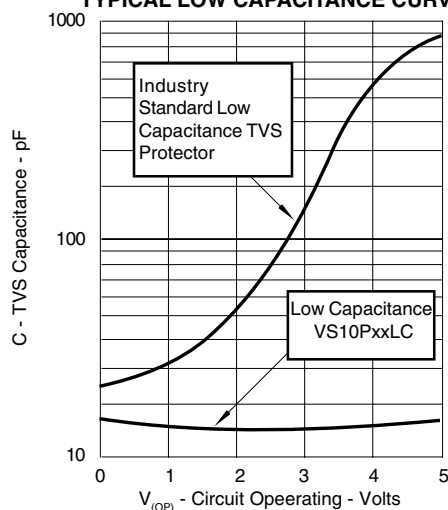
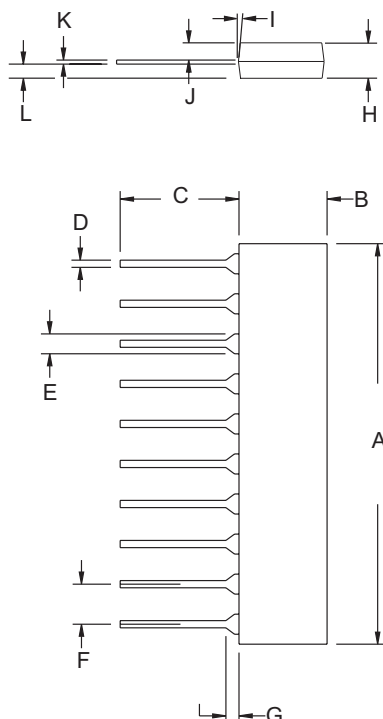


FIGURE 4
TYPICAL LOW CAPACITANCE CURVE



10 PIN VSIP 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.

BULK ORDERING NOMENCLATURE

1. Product Shipped in Tubes of 18 pcs per Tube.
2. Suffix - LF = Lead-Free Plating, i.e., VSB10P15C-LF.

Outline & Dimensions: Rev 1 - 11/01, 06016

COPYRIGHT © ProTek Devices 2007

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC).

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

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