

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, USB & FireWire
- ✓ I/O Port Protection

IEC COMPATIBILITY (EN61000-4)

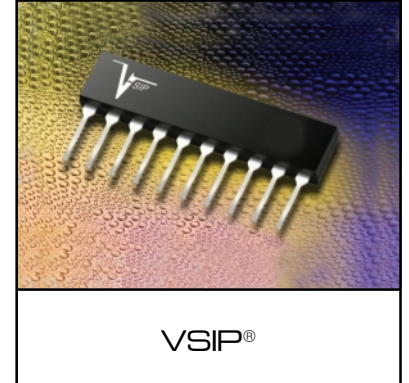
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line)

FEATURES

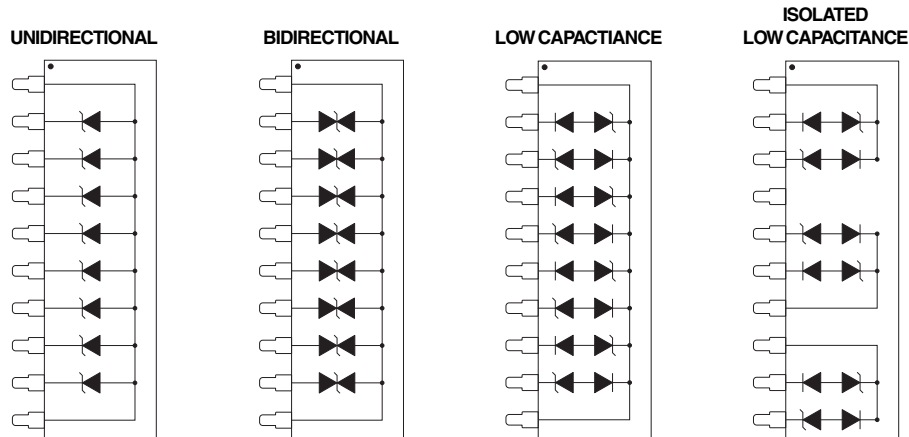
- ✓ Series A: 800 Watts Peak Pulse Power per Line (tp=8/20µs)
- ✓ Series B: 3,400 Watts Peak Pulse Power per Line (tp=8/20µs)
- ✓ ESD Protection > 40 kilovolts
- ✓ High Surge Capability & Low Capacitance Option
- ✓ Protects 8 to 9 Bidirectional Data Lines
- ✓ Available in 5 Voltages Types Ranging from 5V to 24V

MECHANICAL CHARACTERISTICS

- ✓ Molded Plastic VSIP® Package
- ✓ 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_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) V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA V_{BR} VOLTS	SERIES A				SERIES B			
		MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 10A$ V_C VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D AMPS	MAXIMUM PEAK PULSE CURRENT (See Fig. 2) I_{PP} AMPS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 10A$ V_C VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D AMPS	MAXIMUM PEAK PULSE CURRENT (See Fig. 2) 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), 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

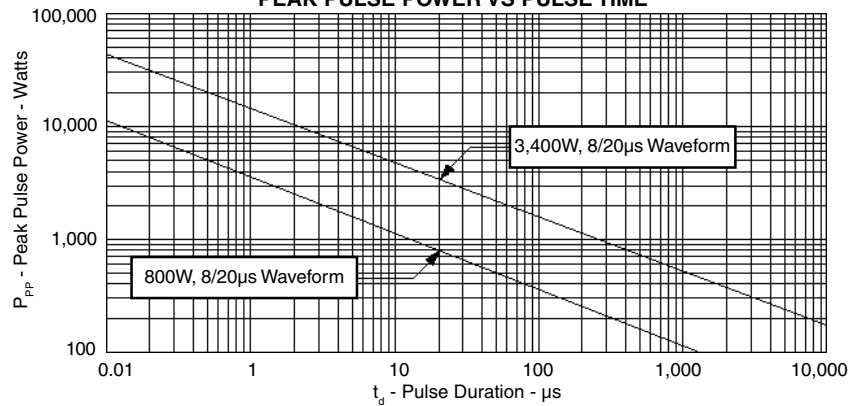


FIGURE 2
PULSE WAVE FORM

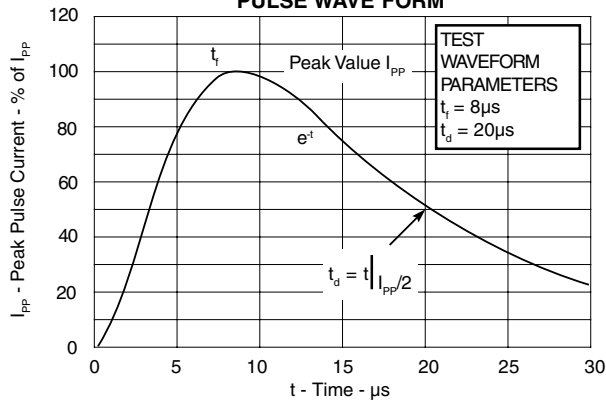


FIGURE 3
POWER DERATING CURVE

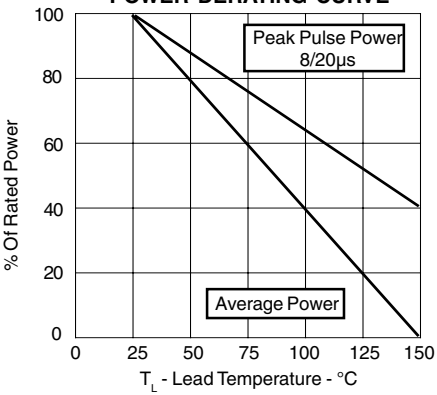
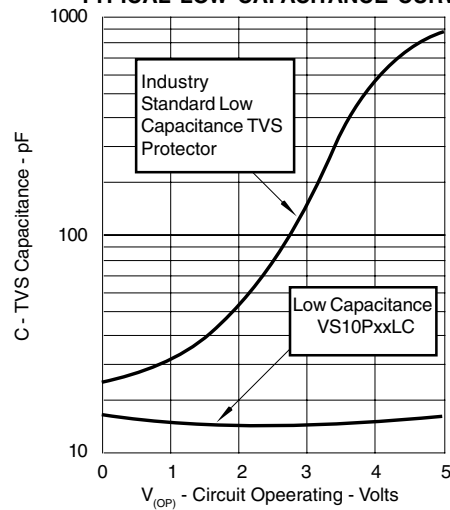
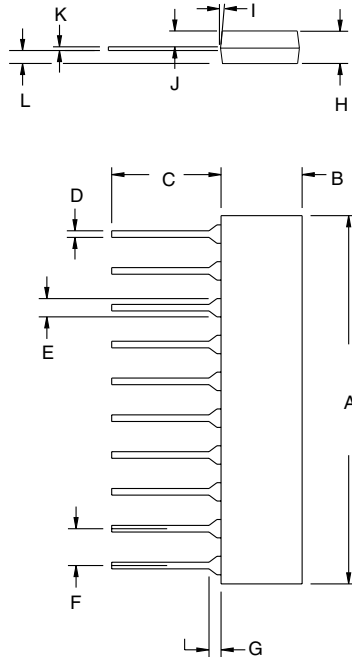


FIGURE 4
TYPICAL LOW CAPACITANCE CURVE

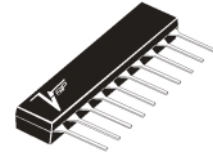


PACKAGE OUTLINE & DIMENSIONS

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.

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

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