

## LOW CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ RS-232 and RS-423 Data Lines
- ✓ T1/E1 & T3/E3
- ✓ ATM Circuit Interfaces
- ✓ ADSL/HDSL & ISDN Interfaces
- ✓ V.34/V.90
- ✓ Cable Modem Intra-Structure Protection

### IEC COMPATIBILITY (EN61000-4)

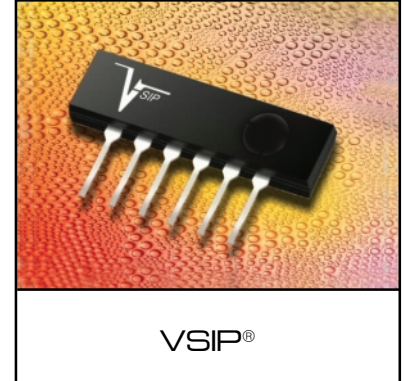
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 8/20 $\mu$ s - 95A, L4(Line-Gnd) & 48A, L4(Line-Line) & 83A, L2(Power)

### FEATURES

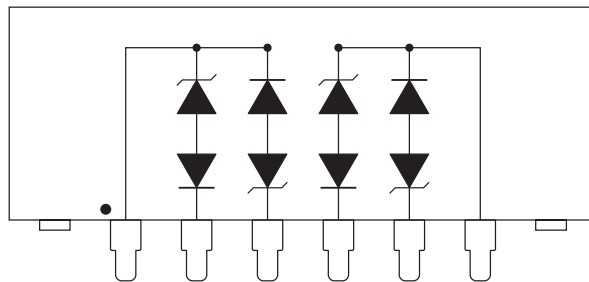
- ✓ 600 Watts Peak Pulse Power per Line (tp=10/1000 $\mu$ s)
- ✓ 100A (2/10 $\mu$ s) per Bellcore GR-1089 (Intra-Building)
- ✓ Isolated VSIP® Technology
- ✓ ESD Protection > 40 kilovolts
- ✓ High Surge Capability
- ✓ Lead Spacing of 0.100"
- ✓ Available in 3 Voltages: 5V, 6.5V & 12V
- ✓ **LOW CAPACITANCE: < 50pF**

### 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 CONFIGURATION



**DEVICE CHARACTERISTICS**

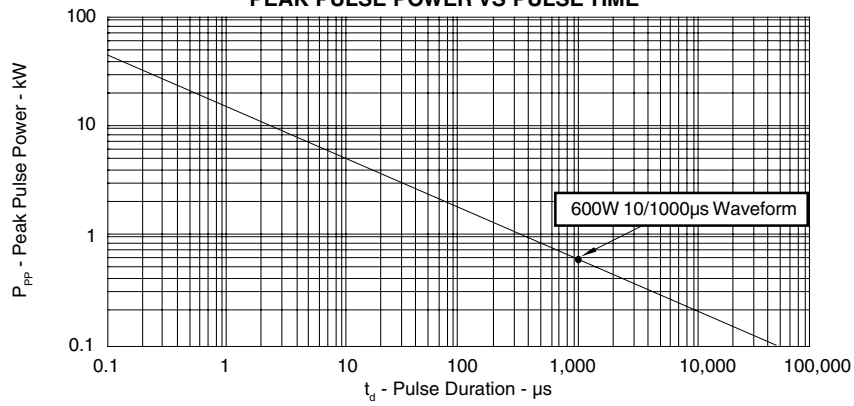
| MAXIMUM RATINGS @ 25°C Unless Otherwise Specified        |           |                |       |
|--|-----------|----------------|-------|
| PARAMETER  | SYMBOL    | VALUE          | UNITS |
| Peak Pulse Power ( $t_p = 10/1000\mu s$ ) - See Figure 1 | $P_{PP}$  | 600            | Watts |
| Operating 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 |                |  |   |   |   |   |  |
|---|----------------|--|---|---|---|---|--|
| PART NUMBER<br>(See Note 1)   | DEVICE MARKING | RATED STAND-OFF VOLTAGE<br><br>$V_{WM}$<br>VOLTS | MINIMUM BREAKDOWN VOLTAGE<br><br>@ 1mA<br>$V^{(BR)}$<br>VOLTS | MAXIMUM CLAMPING VOLTAGE<br>(See Fig. 2)<br><br>@ $I_P = 10A$<br>$V_C$<br>VOLTS | MAXIMUM CLAMPING VOLTAGE<br>(See Fig. 2)<br><br>@ 10/1000 $\mu s$<br><br>$V_C @ I_{PP}$ | MAXIMUM LEAKAGE CURRENT<br><br>@ $V_{WM}$<br>$I_D$<br>$\mu A$ | MAXIMUM CAPACITANCE<br><br>0V @ 1 MHz<br>C<br>pF |
| VSB06P05LCI   | VSB06P05LCI    | 5  | 6.0   | 12.5  | 16.5V @ 36.0A   | 300   | 50   |
| VSB06P6.5LCI  | VSB06P6.5LCI   | 6.5  | 7.2   | 11.6  | 15.6V @ 38.0A   | 300   | 50   |
| VSB06P12LCI   | VSB06P12LCI    | 12   | 13.3  | 18.8  | 22.8V @ 26.0A   | 2   | 50   |

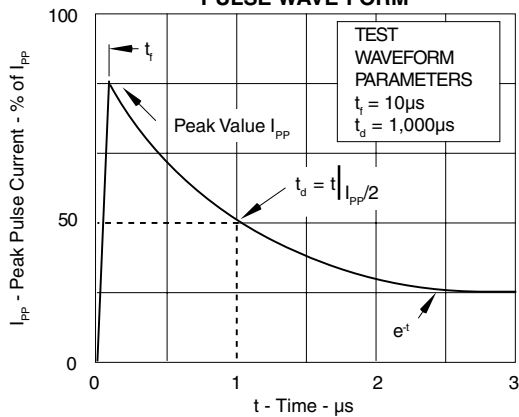
**Note 1:** Do not surge from pins 2 to 1, 1 to 3 or 4 to 6, 6 to 5. PIV typically greater than 100 volts for each rectifier diode. For circuit applications external pins 2 & 3 and 4 & 5 are connected.

GRAPHS

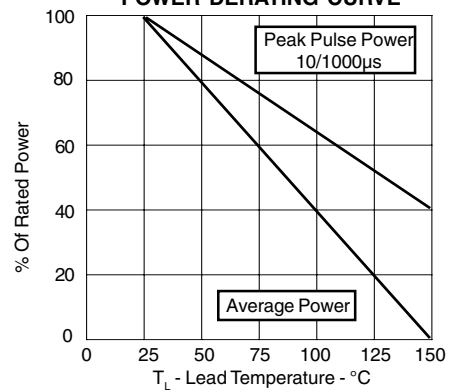
**FIGURE 1  
 PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
 PULSE WAVE FORM**



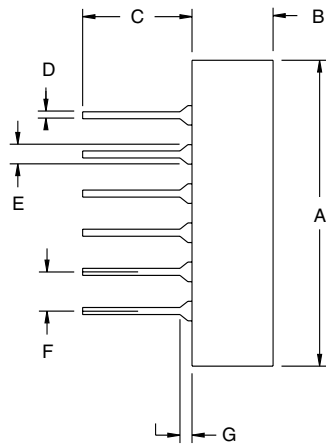
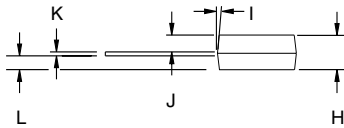
**FIGURE 3  
 POWER DERATING CURVE**



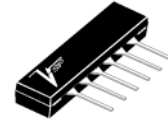
# VSB06P05LCI thru VSB06P12LCI

## 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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