

**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)**

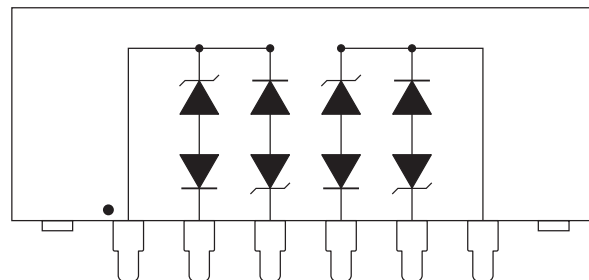
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 8/20 $\mu$ s - 95A, L4(Line-Gnd) & 48A, L4(Line-Line) & 83A, L2(Power)

**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
- ✓ RoHS Compliant in Lead-Free Versions

**MECHANICAL CHARACTERISTICS**

- ✓ Molded Plastic VSIP® Package
- ✓ Weight 1.5 grams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
  - Tin-Lead - Sn/Pb, 85/15: 240-245°C
  - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package


**6 PIN VSIP**
**PIN CONFIGURATION**


# VSB06P05LCI thru VSB06P12LCI

## 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

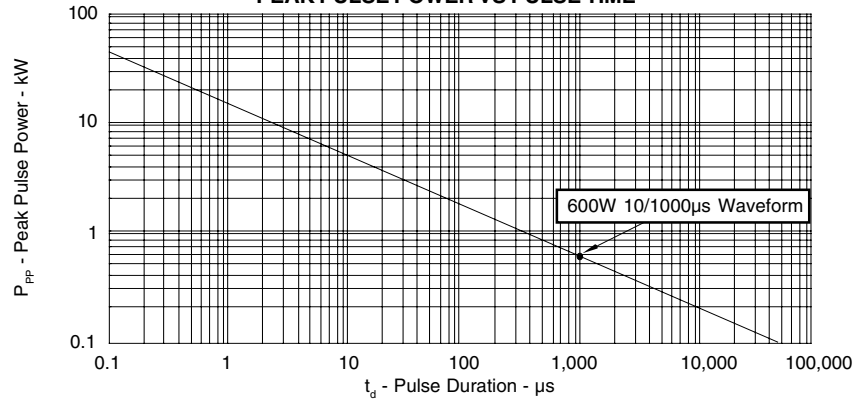
### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (See Note 1)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_P = 10A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 10/1000 $\mu s$ $V_C @ I_{FP}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_b$ $\mu A$	MAXIMUM CAPACITANCE  0V @ 1 MHz $C_j$ 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

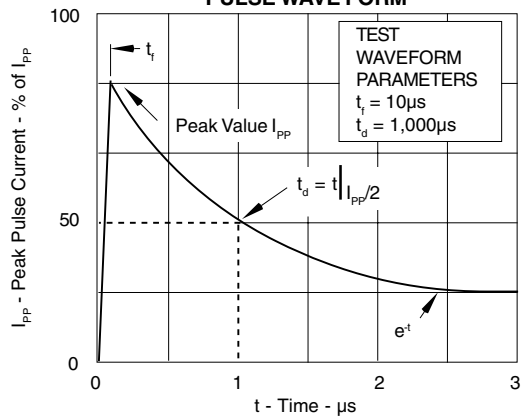
**Note 1:** Do not surge from pins 2 to 1, 1 to 3 or 4 to 6, 6 to 5. PIV typically greater than 100 volts for each rectifier diode. For circuit applications external pins 2 & 3 and 4 & 5 are connected.

## GRAPHS

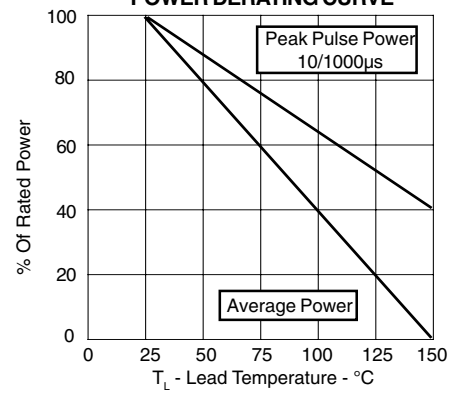
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**



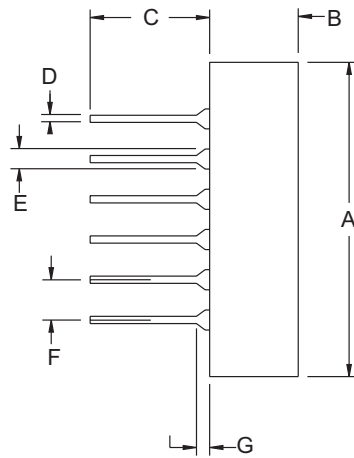
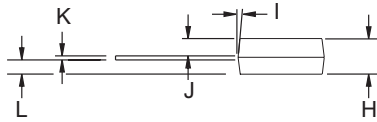
**FIGURE 3  
POWER DERATING CURVE**



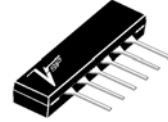
# VSB06P05LCI thru VSB06P12LCI

## 6 PIN VSIP PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE



### 6 PIN 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, Pure-Tin Plating, i.e., VSB06P05LCI-LF.

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

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