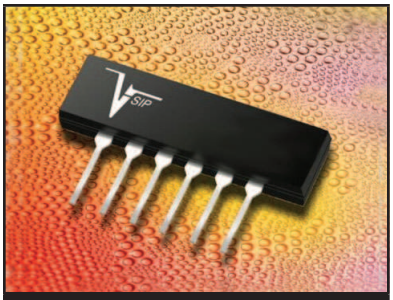
HIGH POWERED VSIP® TVS ARRAY



6 PIN VSIP® PACKAGE

DESCRIPTION

The VSB06P05LCI is a high powered, low capacitance TVS array available in a 6 pin VSIP package. This device is designed to protect telecommunications equipment from the damaging effects of ESD, EFT and secondary transient threats.

The VSB06P05LCI has a peak pulse power rating of 600 Watts for an 10/1000µs waveshape. This device meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20µs, 95A - Level 4(Line-Gnd) & 48A, Level 4(Line-Line), 83A Level 2 (Power)
- 600 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- 100A (2/10µs) per Bellcore GR-1089 (Intra Building)
- ESD Protection > 25 kilovolts
- High Surge Capability
- Low Capacitance: < 50pF
- RoHS Compliant
- REACH Compliant

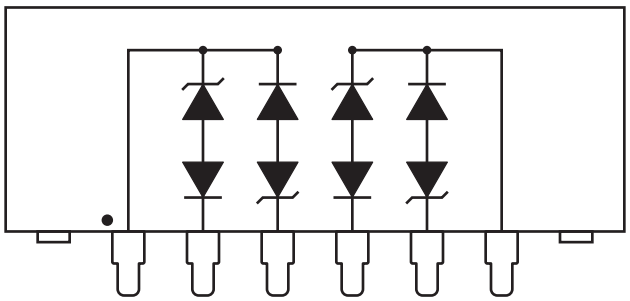
APPLICATIONS

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

MECHANICAL CHARACTERISTICS

- Molded 6 Pin Plastic VSIP® Package
- Approximate Weight: 1.5 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
  Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

PIN CONFIGURATION



TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 10/1000µs) - See Figure 1	P_{PP}	600	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

SERIES "A" ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (Note 1)	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ IP = 10A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 10/1000µs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	MAXIMUM CAPACITANCE @ 0V, 1MHz C_J pF
VSB06P05LCI	5.0	6.0	12.5	16.5V @ 36.0A	300	50

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

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

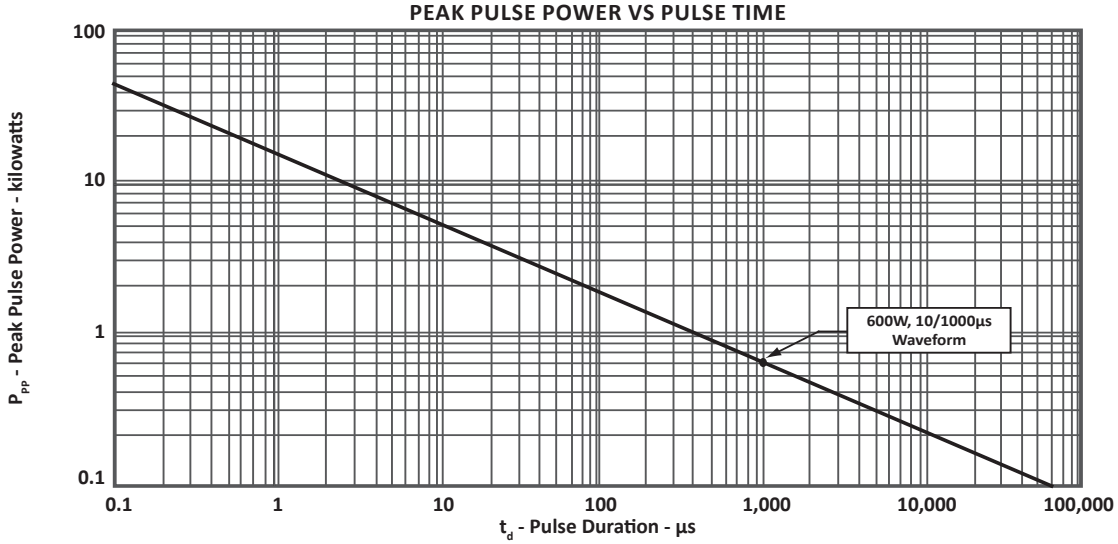


FIGURE 2
PULSE WAVEFORM

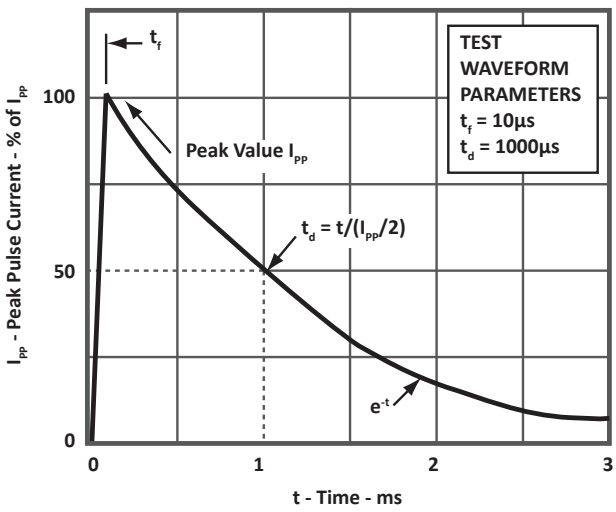
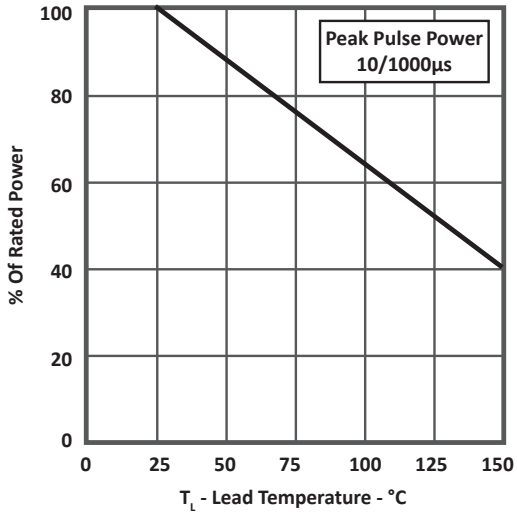
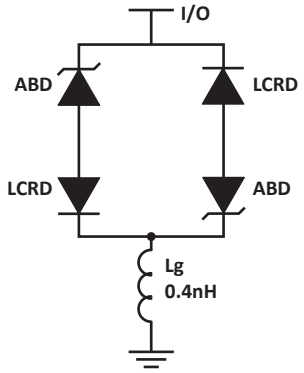


FIGURE 3
POWER DERATING CURVE



SPICE MODEL

FIGURE 1
SPICE MODEL



ABD - Avalanche Breakdown Diode (TVS)
LCRD: Low Capacitance Rectifier Diode
Lg - Lead Inductance

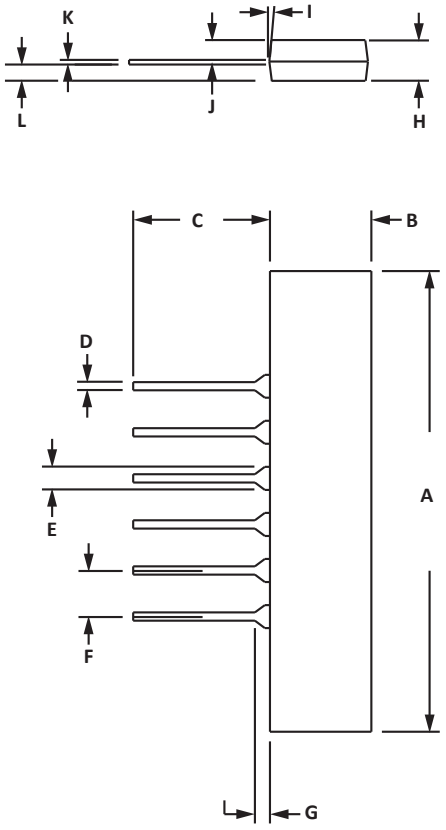
TABLE 1 - SPICE PARAMETERS			
PARAMETER	**UNIT**	**ABD(TVS)**	**LCRD**
BV	V	See Table 2	200
IBV	µA	1	0.01
C_{jo}	pF	See Table 2	5
I_S	A	See Table 2	1E-13
Vj	V	0.6	0.6
M	-	0.33	0.33
N	-	1	1
R_S	Ohms	See Table 2	0.31
TT	s	1E-8	1E-9
EG	eV	1.11	1.11

TABLE 2 - ABD SPECIFIC SPICE PARAMETERS				
PART NUMBER	**B_V(VOLTS)**	**C_{jo}(pF)**	**I_S (AMPS)**	**Rs(OHMS)**
VSB06P05LCI	6.0	3000	1E-11	0.075

6 PIN VSIP PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	18.92	20.57	0.745	0.810
B	5.68	6.45	0.244	0.254
C	5.92	6.73	0.233	0.265
D	0.406	0.508	0.016	0.020
E	1.27	1.65	0.05	0.065
F	2.49	2.59	0.098	0.102
G	0.38	1.40	0.015	0.055
H	3.05	3.81	0.120	0.150
I	7° TYP	7° TYP	7° TYP	7° TYP
J	1.78	2.03	0.070	0.080
K	0.20	0.30	0.008	0.012
L	1.52	1.78	0.060	0.070

NOTES
1. Dimensions are exclusive of mold flash and metal burrs.
2. Controlling dimensions in inches.



ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
VSB06P05LCI	-LF	n/a	n/a	n/a	25

NOTES
1. Marking on Part - logo, part number, date code and pin one defined by dot on top of package.
2. This device only available in a lead-free configuration.

Package outline per document number 06017.R2 1/11.

COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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