

## LOW CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ Video On-Demand
- ✓ ISDN Telecom Interface
- ✓ USB, ADSL & SCSI Interfaces
- ✓ Modems
- ✓ LAN Interconnects
- ✓ Portable Electronics

### 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 $\mu$ s - Level 2(Line-Gnd) & Level 3(Line-Line)

### FEATURES

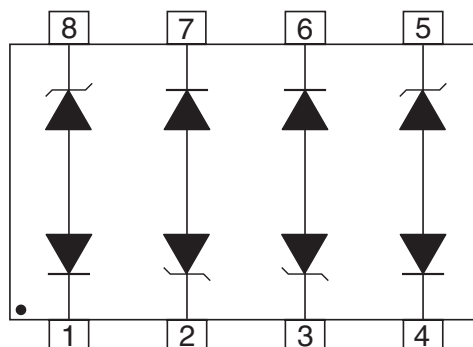
- ✓ 800 Watts Peak Pulse Power per Line ( $t_p=8/20\mu$ s)
- ✓ Bidirectional Configuration
- ✓ Available in 5 Voltage Types: 5V to 24V
- ✓ Protects Up to Two Line Pairs
- ✓ ESD Protection > 40 kilovolts
- ✓ **LOW CAPACITANCE: 25pF**
- ✓ RoHS Compliant in Lead-Free Versions

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-8 Package
- ✓ Weight 70 milligrams (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
- ✓ 12mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, 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 ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	800	Watts
Operating Temperature	$T_J$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

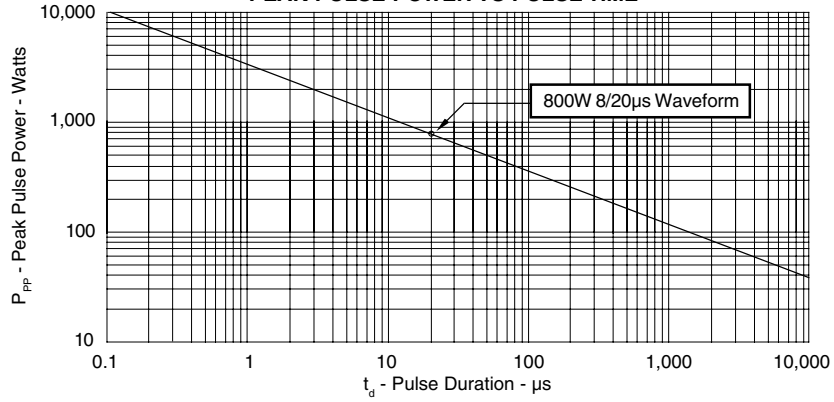
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Note 1-2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_p = 1A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 8/20 $\mu s$ $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM CAPACITANCE  0V @ 1 MHz C pF
SM8LC05	PGA	5.0	6.0	9.8	24.6V @ 45A	100	25
SM8LC08	PGB	8.0	8.5	13.3	25.5V @ 40A	10	25
SM8LC12	PGC	12.0	13.3	19.0	32.9V @ 34A	4	25
SM8LC15	PGD	15.0	16.7	25.5	38.5V @ 27A	4	25
SM8LC24	PGE	24.0	26.7	40.0	48.5V @ 22A	4	25

**Note 1:** Devices are designed to be used in parallel (See Circuit Diagram) Page 1. For other applications, contact the factory. Do not surge in the "forward" direction of the TVS.

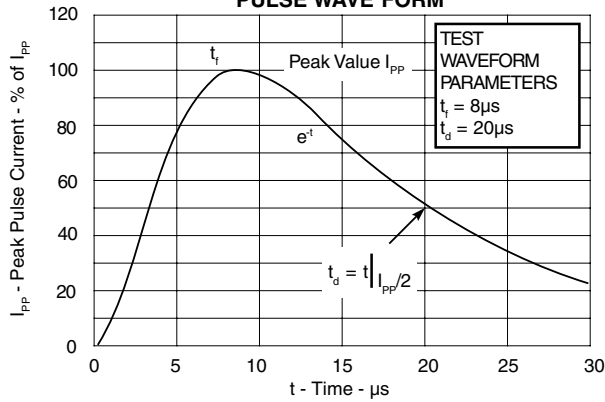
**Note 2:** Do not surge from pins 1 to 8, 7 to 2, 6 to 3 and 4 to 5. PIV typically greater than 100 volts for each rectifier diode.

GRAPHS

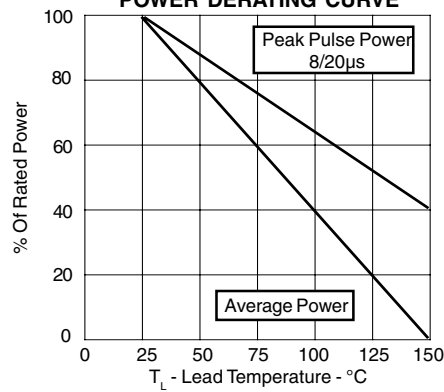
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2**  
**PULSE WAVE FORM**



**FIGURE 3**  
**POWER DERATING CURVE**



**PACKAGE OUTLINE & DIMENSIONS**

### PACKAGE OUTLINE

**SO-8**

### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.250	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.008
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

### MOUNTING PAD

**NOTES**

- T - = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusion.
- Maximum mold protrusion is 0.015" (0.380 mm) per side.
- Dimensioning and tolerances per ANSI Y14.5M, 1982.
- Dimensions are exclusive of mold flash and metal burrs.

**TAPE & REEL/BULK ORDERING NOMENCLATURE**

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T7 = 7 Inch Reel - 1,000 pieces per 12mm tape, i.e., *SM8LC05-T7*.
- Suffix-T13 = 13 Inch Reel - 2,500 pieces per 12mm tape, i.e., *SM8LC05-T13*.
- Suffix - LF= Lead-Free, Pure-Tin Plating, i.e., *SM8LC05-LF-T7*.
- No Suffix = Product Shipped in Tubes of 98 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06009**

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**ProTek Devices**  
2929 South Fair Lane, Tempe, AZ 85282  
Tel: 602-431-8101 Fax: 602-431-2288  
E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
Web Site: [www.protekdevices.com](http://www.protekdevices.com)