

## LOW CAPACITANCE TVS ARRAY



**SC-79 PACKAGE**

### DESCRIPTION

The RSB6.8S is a low capacitance, transient voltage suppressor designed to protect applications such as wireless telecommunication devices, PCMCIA cards and portable electronics. This device is available in a bidirectional configuration with a working voltage of 4.7V and a minimum breakdown voltage of 5.7V. The RSB6.8S is rated at 10W peak pulse power (10/1000μs), which is sufficient protection for ESD threats at key interface locations.

The RSB6.8S is ideally suited to protect 5V DC lines and data I/O ports against ESD and EFT. This device meets the requirements of IEC 61000-2 and IEC 61000-4-4. Packaged in a SC-79 configuration, this device can be substituted for similar 0803 outlines.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- 10 Watts Peak Pulse Power per Line (tp = 10/1000μs)
- Bidirectional Configuration
- Replacement for MLV (0803)
- Low Clamping Voltage
- Low Capacitance
- RoHS Compliant
- REACH Compliant

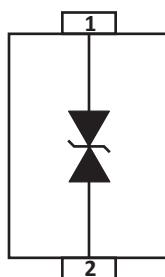
### MECHANICAL CHARACTERISTICS

- Molded JEDEC SC-79 Package
- Approximate Weight: 2 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
    Pure-Tin - Sn, 100: 260-270°C
- 8mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

### APPLICATIONS

- Noise Suppression for Data/Audio Lines
- SMART Phones
- Digital Cameras
- Laptop Computers

### PIN CONFIGURATION



## TYPICAL DEVICE CHARACTERISTICS

| MAXIMUM RATINGS @ 25°C Unless Otherwise Specified       |           |            |       |
|---|-----------|------------|-------|
| PARAMETER   | SYMBOL    | VALUE      | UNITS |
| Peak Pulse Power ( $tp = 10/1000\mu s$ ) - See Figure 1 | $P_{PP}$  | 10         | Watts |
| Power Dissipation                                       | $P_D$     | 150        | mW    |
| Operating Temperature                                   | $T_A$     | -55 to 150 | °C    |
| Storage Temperature                                     | $T_{STG}$ | -55 to 150 | °C    |
| Junction Temperature                                    | $T_J$     | 150        | °C    |

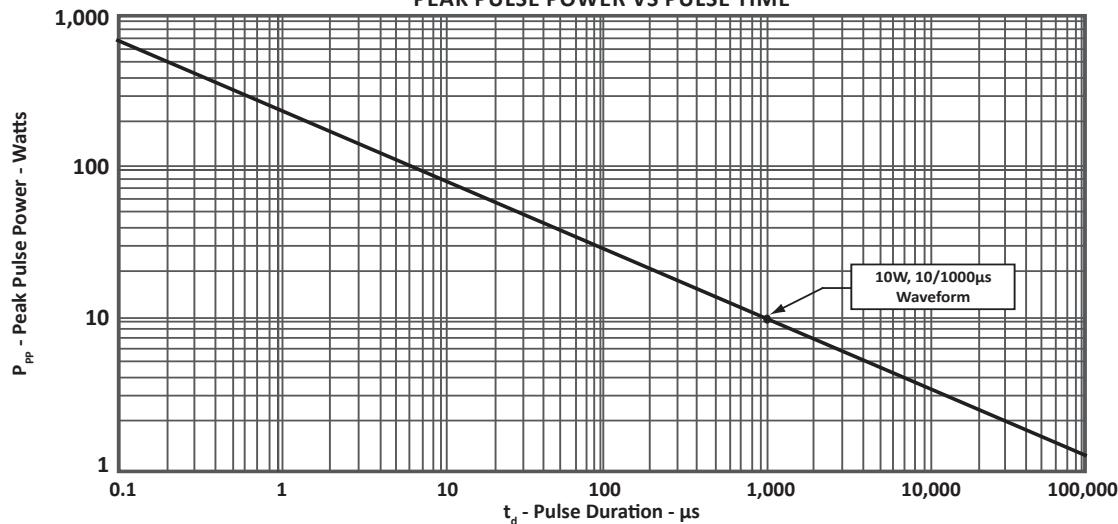
| ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified |                |  |   |   |   |
|---|----------------|--|---|---|---|
| PART NUMBER<br>(Note 1)   | DEVICE MARKING | RATED STAND-OFF VOLTAGE<br>$V_{WM}$<br>VOLTS | MINIMUM BREAKDOWN VOLTAGE<br>@ 1mA<br>$V_{(BR)}$<br>VOLTS | MAXIMUM LEAKAGE CURRENT<br>@3.5V<br>$I_D$<br>μA | MAXIMUM CAPACITANCE<br>@0V, 1MHz<br>C<br>pF |
| RSB6.8S   | C5             | 4.7  | 5.7   | 0.5   | 30  |

## NOTE

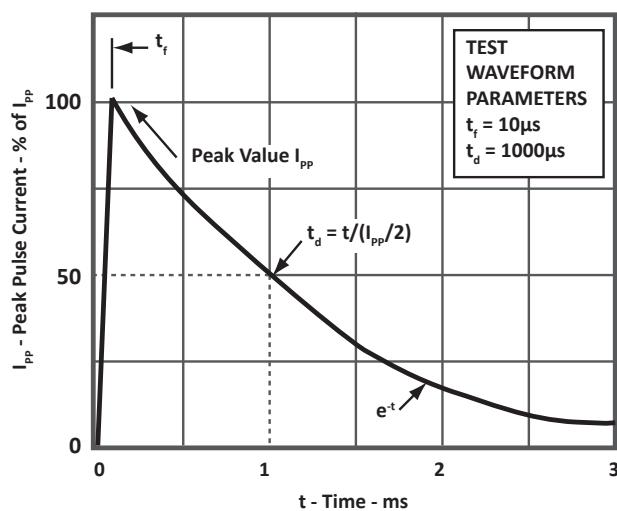
1. Bidirectional device. Test both polarities.

## TYPICAL DEVICE CHARACTERISTICS

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



**FIGURE 2**  
**PULSE WAVEFORM**

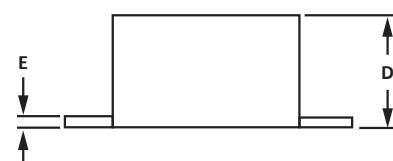
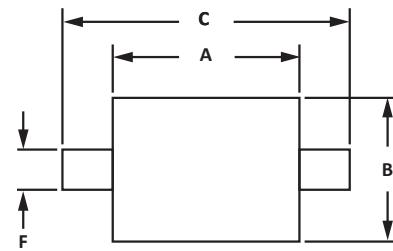


## SC-79 PACKAGE INFORMATION

| OUTLINE DIMENSIONS |             |      |           |       |
|--------------------|-------------|------|-----------|-------|
| DIM                | MILLIMETERS |      | INCHES    |       |
|                    | MIN         | MAX  | MIN       | MAX   |
| A                  | 1.10        | 1.30 | 0.043     | 0.049 |
| B                  | 0.70        | 0.90 | 0.028     | 0.035 |
| C                  | 1.50        | 1.70 | 0.059     | 0.066 |
| D                  | 0.50        | 0.70 | 0.020     | 0.028 |
| E                  | 0.08        | 0.20 | 0.003     | 0.008 |
| F                  | 0.30 BSE    |      | 0.012 BSE |       |

**NOTES**

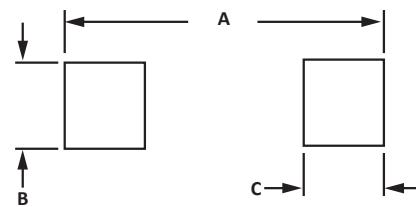
1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.



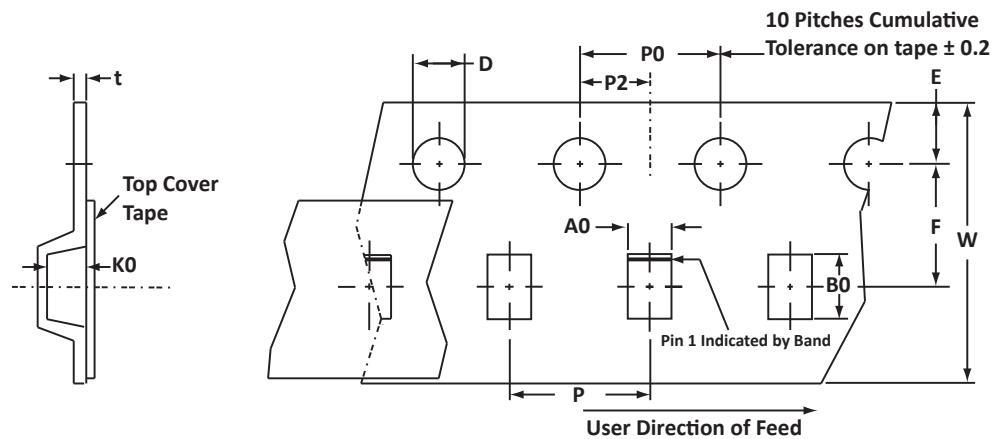
| PAD LAYOUT DIMENSIONS |             |      |        |       |
|-----------------------|-------------|------|--------|-------|
| DIM                   | MILLIMETERS |      | INCHES |       |
|                       | MIN         | MAX  | MIN    | MAX   |
| A                     | 1.85        | 2.03 | 0.070  | 0.080 |
| B                     | 0.38        | 0.64 | 0.015  | 0.025 |
| C                     | 0.25        | 0.51 | 0.010  | 0.020 |

**NOTES**

1. Controlling dimension: millimeters



## TAPE AND REEL



## SPECIFICATIONS

| REEL DIA.  | TAPE WIDTH | A0          | B0          | K0           | D           | E           | F           | W           | P0          | P2          | P           | tmax |
|------------|------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| 178mm (7") | 8mm        | 1.00 ± 0.10 | 1.95 ± 0.05 | 0.075 ± 0.05 | 1.50 ± 0.10 | 1.75 ± 0.10 | 3.50 ± 0.05 | 8.00 ± 0.30 | 4.00 ± 0.10 | 2.00 ± 0.05 | 4.00 ± 0.10 | 0.25 |

## NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Empty pocket between sprocket holes.
4. Suffix - T74 = 7" Reel - 4,000 pieces per 8mm tape.
5. Marking on Part - marking code (see page 2) and date code.

Package outline, pad layout and tape specifications per document number 06037.R3 8/10.

## ORDERING INFORMATION

| BASE PART NUMBER | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------|-----------------|-------------|----------|-----------|----------|
| RSB6.8S          | n/a             | -T74        | 4,000    | 7"        | n/a      |

## COMPANY INFORMATION

### COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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