

LOW CAPACITANCE TVS COMPONENT



DESCRIPTION

The PRSB6.8D is a transient voltage suppressor array designed to protect applications such as wireless telecommunication devices 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 PRSB6.8D is rated at 10W peak pulse power (10/1000 μ s), which is sufficient protection for tertiary type lightning threats at key interface locations.

The PRSB6.8D is ideally suited to protect 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 SOD-923 configuration, this device can be substituted for similar 0803 outlines.

FEATURES

- Compatible with IEC 61000-4-2 (ESD)
- Compatible with IEC 61000-4-4 (EFT)
- 10 Watts Peak Pulse Power per Line ($t_p = 10/1000\mu s$)
- Bidirectional Configuration
- Protects One Data Line
- Low Clamping Voltage
- Low Capacitance
- Easy Placement for Manufacturing
- Ultra Thin Package - 0.016" (Max) Height by 0.015" (Typical)
- RoHS Compliant
- REACH Compliant

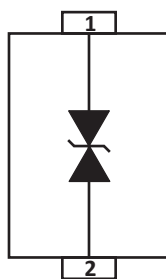
APPLICATIONS

- Noise Suppression for Data Lines
- Portable Electronics
- SMART Phones

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOD-923 Package
- Approximate Weight: 1 milligram
- 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

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}	10	Watts
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	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM LEAKAGE CURRENT @ 3.5V I_D μA	TYPICAL CAPACITANCE @0V, 1MHz C pF
PRSB6.8D	O	4.7	5.7	1	15

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

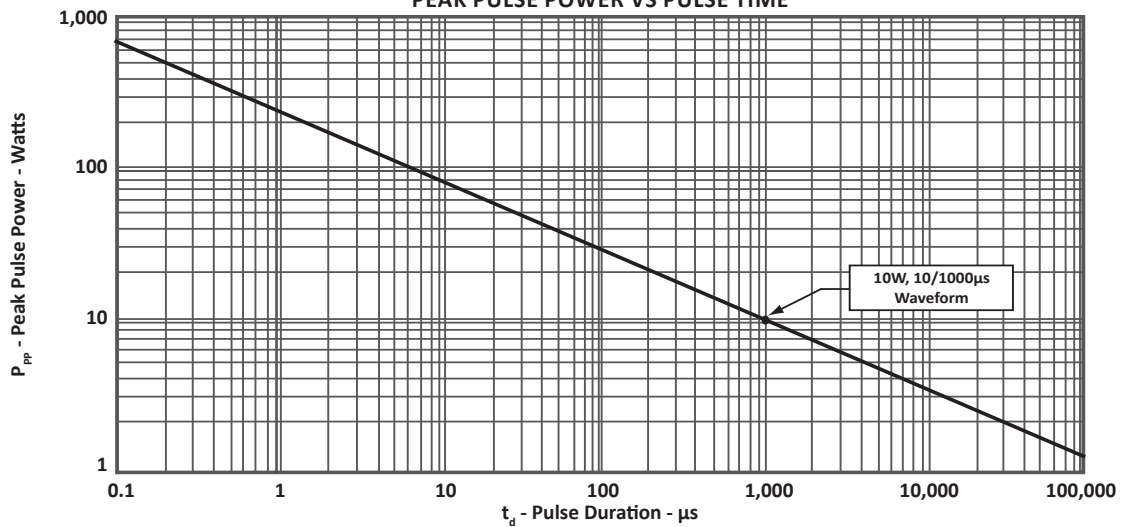
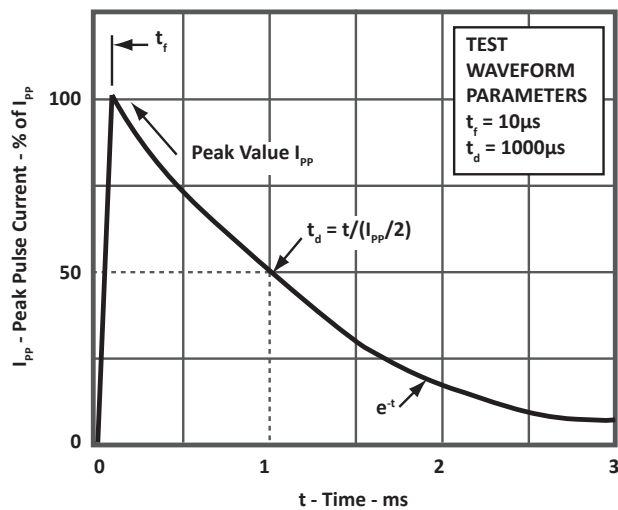


FIGURE 2
PULSE WAVEFORM

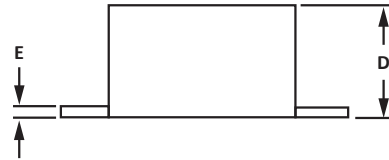
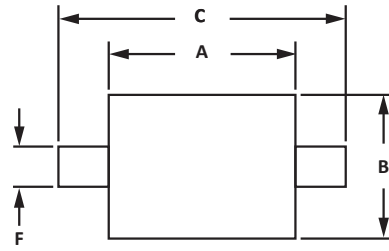


SOD-923 PACKAGE INFORMATION
OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.75	0.85	0.030	0.033
B	0.55	0.65	0.022	0.026
C	0.95	1.05	0.037	0.041
D	0.34	0.40	0.013	0.016
E	0.07	0.17	0.003	0.007
F	0.20		0.008	

NOTES

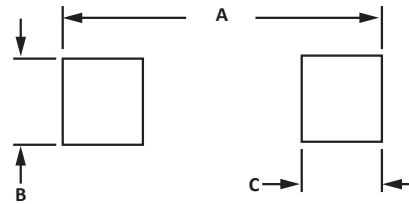
1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.

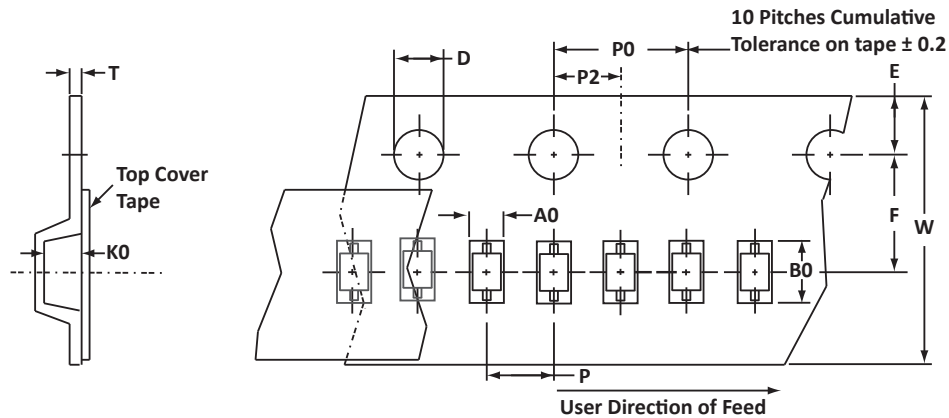

PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.051
B	0.20	0.30	0.008	0.012
C	0.30	0.40	0.012	0.016

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	1.12 ± 0.05	0.70 ± 0.05	0.48 ± 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	2.00 ± 0.05	0.25

NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T75 = 7" Reel - 5,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2).

Package outline, pad layout and tape specifications per document number 06087.R1 3/11.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PRSB6.8D	-LF	-T75	5,000	7"	n/a

This device is only available in a Lead-Free configuration.

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.

CONTACT US

Corporate Headquarters

2929 South Fair Lane
Tempe, Arizona 85282
USA

By Telephone

General: 602-431-8101
Sales: & Marketing: 602-414-5109
Customer Service: 602-414-5114
Product Technical Support: 602-414-5107

By Fax

General: 602-431-2288

By E-mail:

Sales: sales@protekdevices.com
Customer Service: service@protekdevices.com
Technical Support: support@protekdevices.com

ProTek Devices (Asia Pacific) Pte. Ltd.

8 Ubi Road 2, #06-19
Zervex
Singapore - 408538
Tel: +65-67488312
Fax: +65-67488313

Web

www.protekdevices.com

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