

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

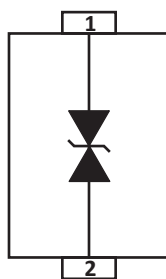
APPLICATIONS

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

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

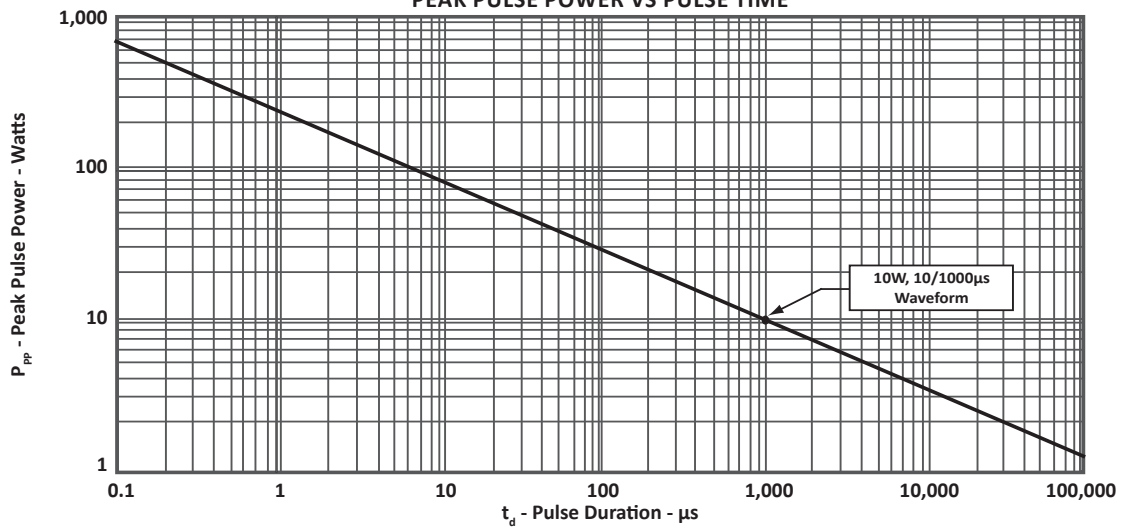
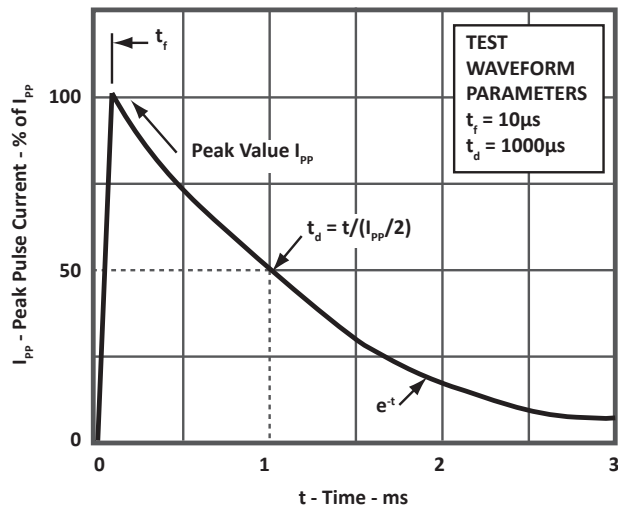


FIGURE 2
PULSE WAVEFORM



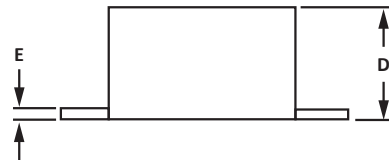
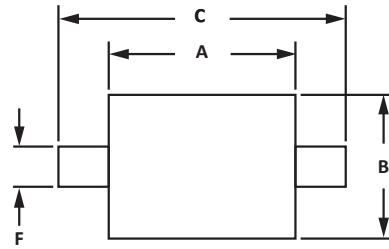
SOD-923 PACKAGE INFORMATION

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.

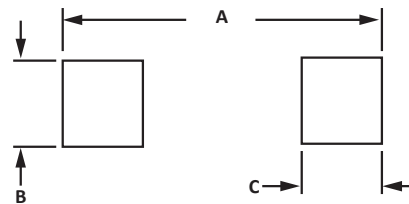


PAD LAYOUT DIMENSIONS

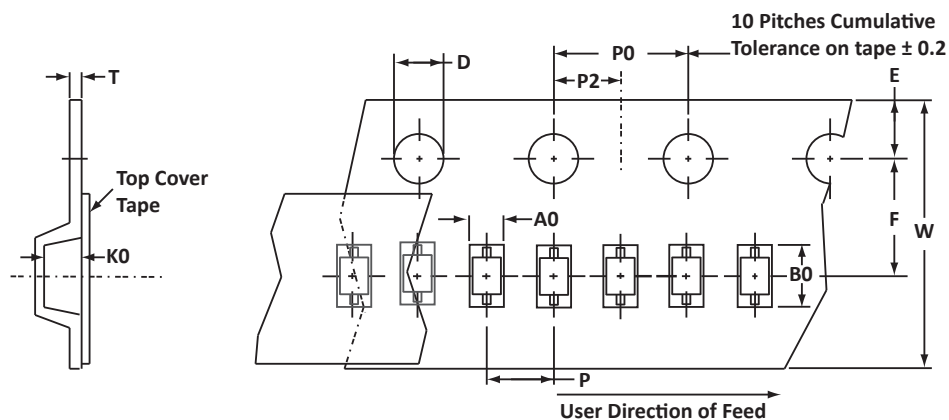
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.051
B	0.20	0.30	0.008	0.012
C	0.30	0.40	0.012	0.016

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

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

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 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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