

TYPICAL DEVICE CHARACTERISTICS
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Unidirectional: Peak Pulse Power (tp = 8/20μs) - See Figure 1	P _{PP}	500	Watts
Bidirectional: Peak Pulse Power (tp = 8/20μs) - See Figure 1	P _{PP}	400	Watts
Operating Temperature	T _L	-55 to 150	°C
Storage Temperature	T _{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (Note 1)	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V _{WM} VOLTS	@ 1mA V _(BR) VOLTS	@ IP = 1A V _C VOLTS	@ V _{WM} I _D μA	@ 0V, 1MHz C pF
PSD03	A	3.3	4.0	6.5	125	500
PSD03C	G	3.3	4.0	7.0	125	200
PSD05	B	5.0	6.0	9.8	10	350
PSD05C	H	5.0	6.0	9.8	10	175
PSD08	C	8.0	8.5	13.4	10	250
PSD08C	J	8.0	8.5	13.4	10	150
PSD12	D	12.0	13.3	19.0	1	150
PSD12C	K	12.0	13.3	19.0	1	50
PSD15	E	15.0	16.7	24.0	1	100
PSD15C	L	15.0	16.7	24.0	1	40
PSD18	18	18.0	20.0	29.0	1	90
PSD18C	N	18.0	20.0	29.0	1	40
PSD24	F	24.0	26.7	43.0	1	88
PSD24C	M	24.0	26.7	43.0	1	40
PSD36	R	36.0	40.0	60.0	1	75
PSD36C	T	36.0	40.0	60.0	1	35

NOTES

1. Part numbers with an additional "C" suffix are bidirectional devices, i.e., PSD05C.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

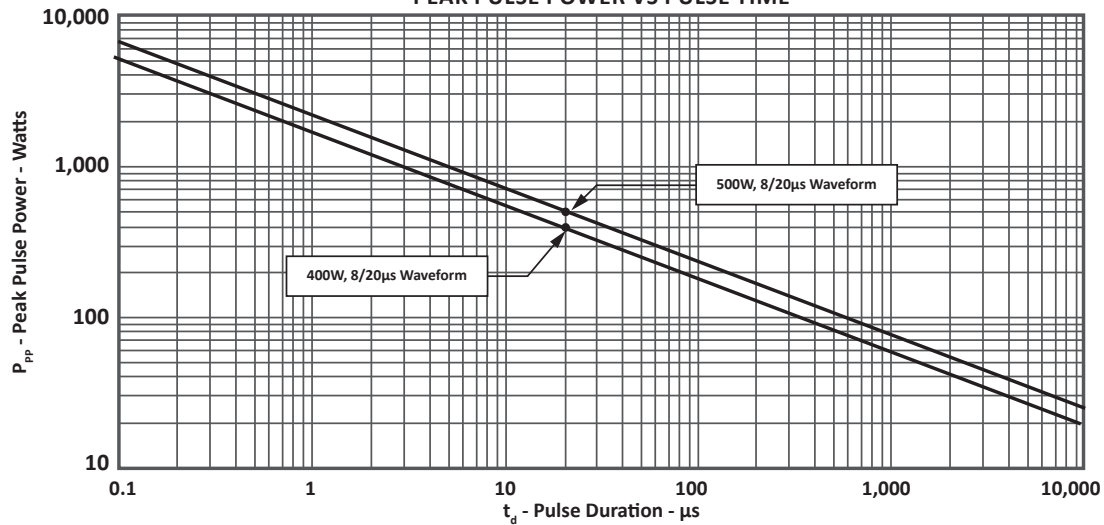


FIGURE 2
PULSE WAVE FORM

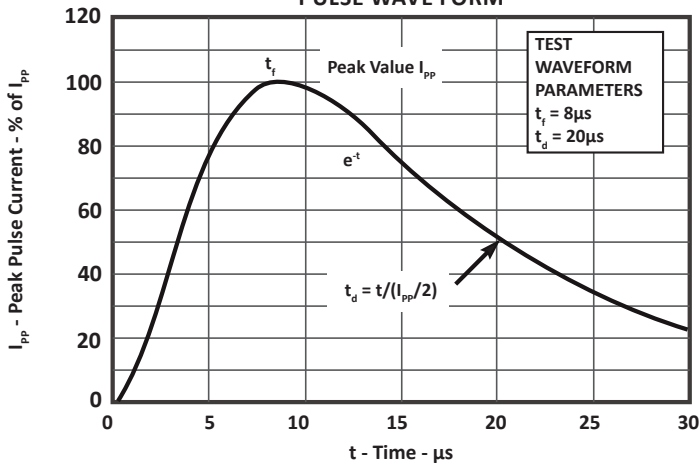
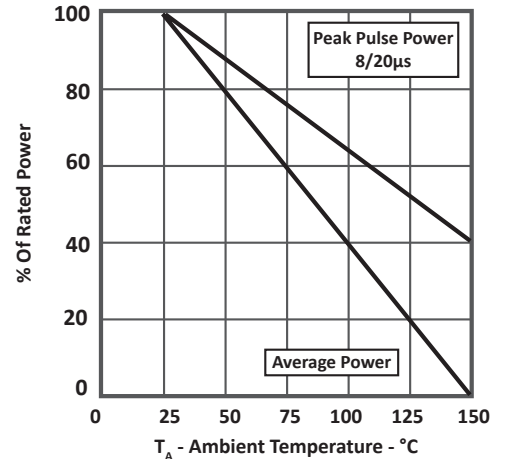
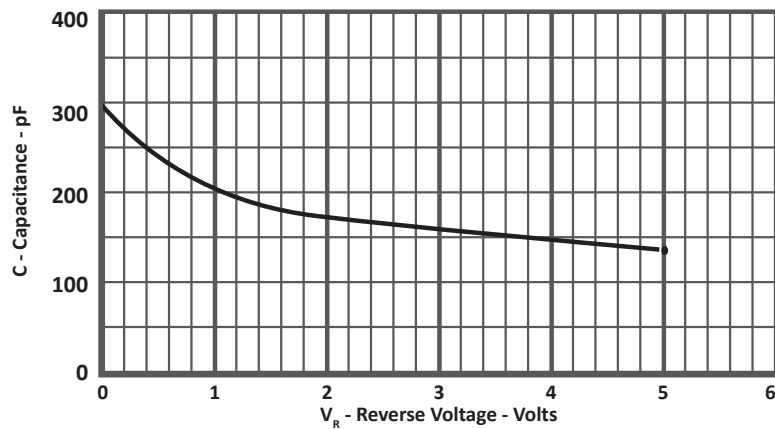
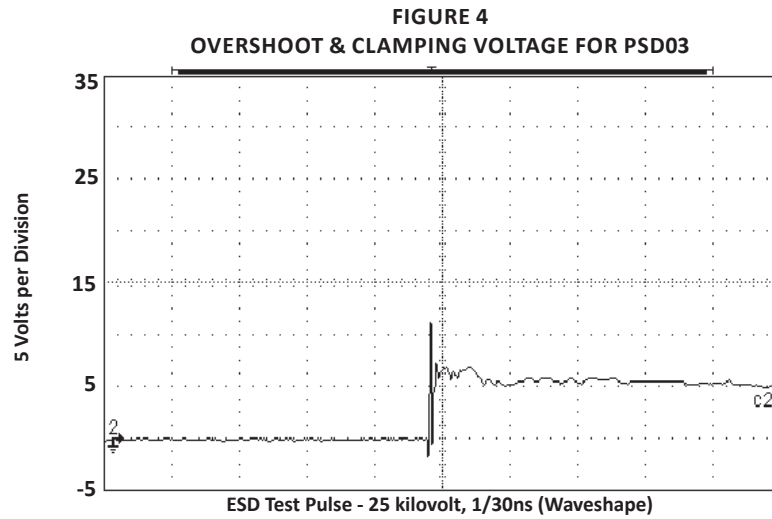


FIGURE 3
POWER DERATING CURVE



TYPICAL DEVICE CHARACTERISTICS



TYPICAL DEVICE CHARACTERISTICS

FIGURE 6
PSD03 FORWARD TLP
 Leakage Current @ Pulse (I) - μA
 Leakage Test Voltage = 0.5V

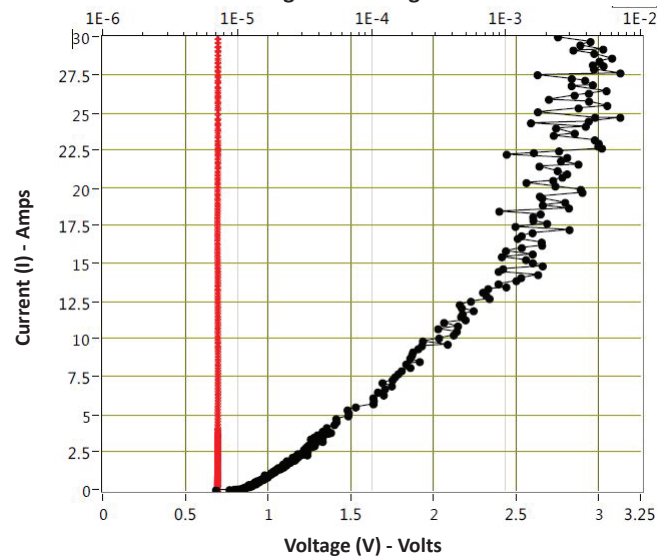
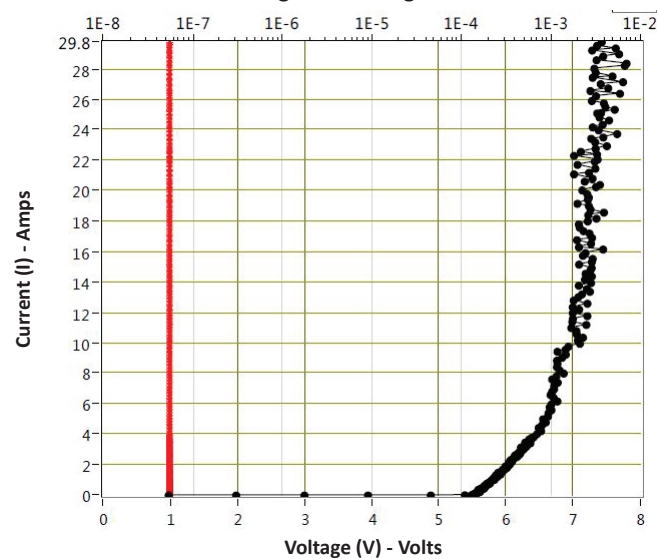


FIGURE 7
PSD03 REVERSE TLP
 Leakage Current @ Pulse (I) - μA
 Leakage Test Voltage = 0.5V



Note: Indicative TLP performance- for reference only

TYPICAL DEVICE CHARACTERISTICS

FIGURE 8
PSD36 FORWARD TLP
 Leakage Current @ Pulse (I) - μA
 Leakage Test Voltage = 0.5V

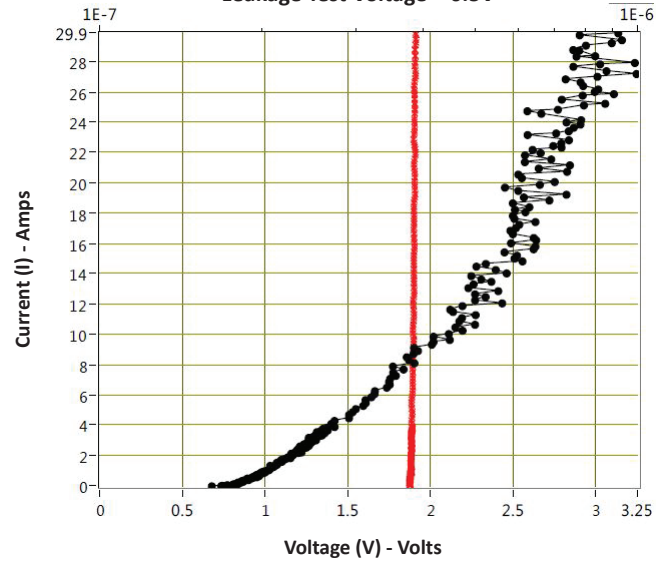
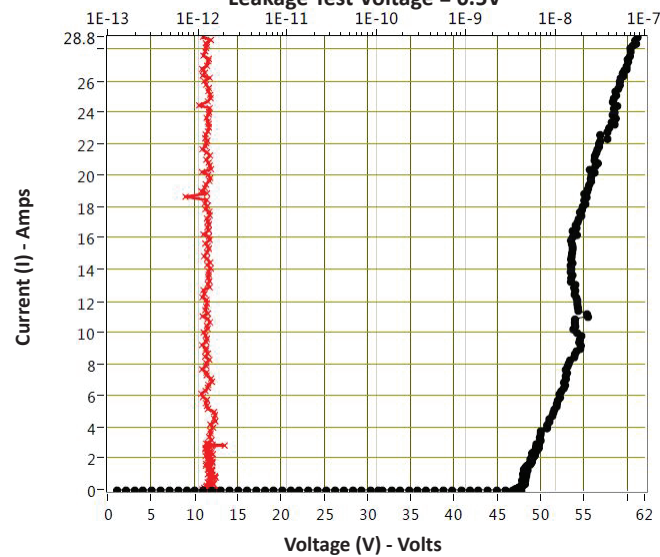
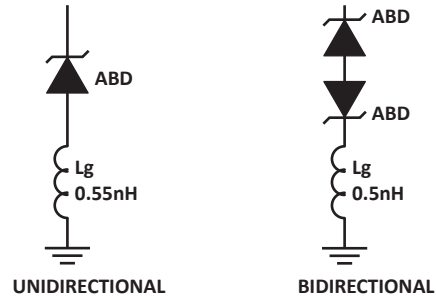


FIGURE 9
PSD36 REVERSE TLP
 Leakage Current @ Pulse (I) - μA
 Leakage Test Voltage = 0.5V



Note: Indicative TLP performance- for reference only

SPICE MODEL

FIGURE 1
SPICE MODEL FOR


ABD - Avalanche Breakdown Diode (TVS)
 Lg - Lead Inductance

TABLE 1 - SPICE PARAMETERS

PARAMETER	UNIT	ABD(TVS)
BV	V	See Table 2
IBV	μA	1
C _{jo}	pF	See Table 2
I _s	A	See Table 2
Vj	V	0.6
M	-	0.33
N	-	1
R _s	Ohms	See Table 2
TT	s	1E-8
EG	eV	1.11

TABLE 2 - ABD SPECIFIC SPICE PARAMETERS

PART NUMBER	B _v (VOLTS)	C _{jo} (pF)	I _s (AMPS)	Rs(OHMS)
PSD03	4.0	438	1E-11	0.21
PSD05	6.0	284	1E-11	0.14
PSD08	8.5	146	1E-11	0.28
PSD12	13.3	123	1E-13	0.40
PSD15	16.7	102	1E-13	0.52
PSD24	26.7	61	1E-13	1.54
PSD03C	4.5	219	1E-11	0.21
PSD05C	6.0	142	1E-11	0.14
PSD08C	8.5	73	1E-11	0.28
PSD12C	13.3	62	1E-13	0.40
PSD15C	16.7	51	1E-13	0.52
PSD24C	26.7	30	1E-13	1.54

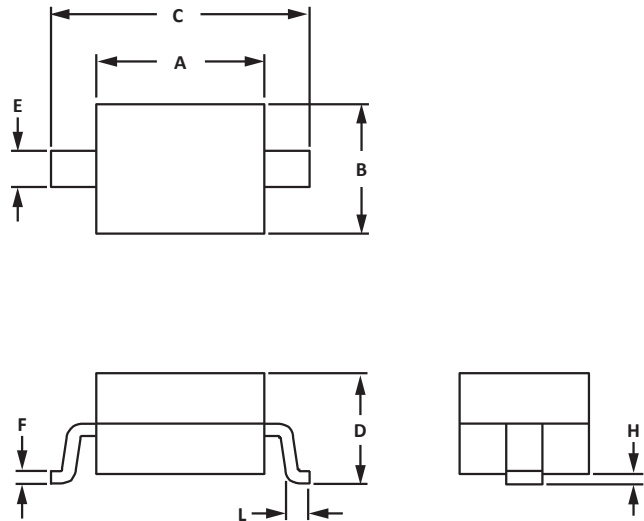
SOD-323 PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.39	2.70	0.094	0.106
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-

NOTES

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

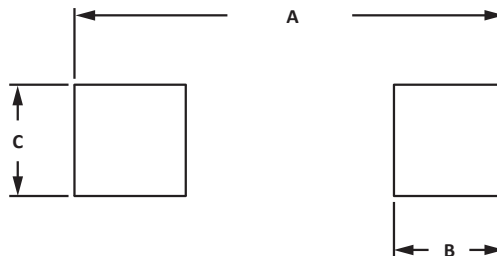


PAD LAYOUT DIMENSIONS

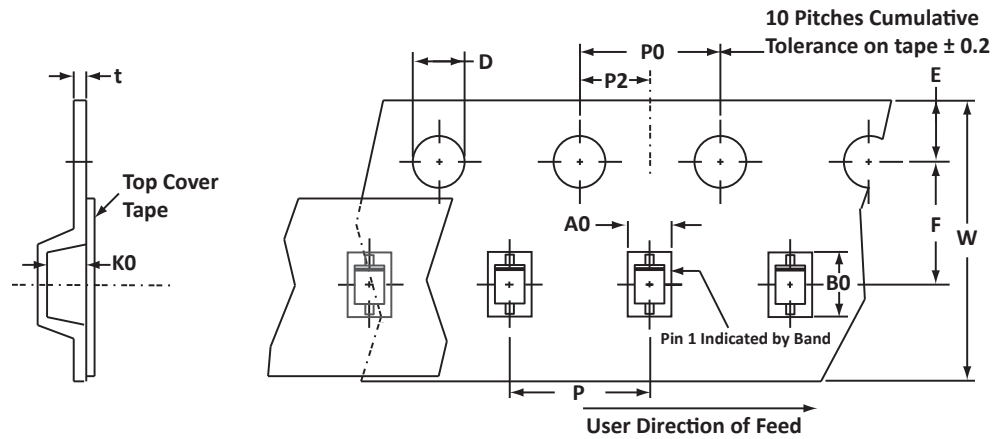
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

NOTES

- 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	1.55 ± 0.10	2.90 ± 0.10	1.35 ± 0.10	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. Suffix - T7 = 7" Reel - 3,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2), polarity band (Unidirectional Only).

ORDERING INFORMATION

BASE PART NUMBER (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PSDxx/PSDxxC	-LF	-T7	3,000	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.

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:

Asia Sales: asiasales@protekdevices.com
Europe Sales: europesales@protekdevices.com
U.S. Sales: ussales@protekdevices.com
Distributor Sales: distysales@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

COPYRIGHT © ProTek Devices 2000 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. ProTek assumes no responsibility with respect to the selection or specifications of such products. ProTek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ProTek assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: ProTek Devices products are not authorized for use in life support systems without written consent from the factory.