

## HIGH POWERED TVS ARRAY



**SOD-323 PACKAGE**

### DESCRIPTION

The PAM26SD2305 is a transient voltage suppressor array designed for ESD protection of automotive applications. This silicon based diode offer superior clamping voltage and performance compared to other technologies such as MLVs.

The PAM26SD2305 can be utilized as a single line protector in a unidirectional configuration. The SOD-323 small package configuration offers designers the flexibility of placement on the printed circuit board for each I/O port or voltage bus. The PAM26SD2305 meets the IEC 61000-4-2 (ESD), 61000-4-4 (EFT) and 61000-4-5 requirements.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20 $\mu$ s Level 2(Line-Gnd) & Level 3 (Line-Line)
- 500 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- Replacement for MLV (0805)
- Unidirectional Configuration
- Protects One Power or I/O Port
- ESD Protection > 25kV
- Low Clamping Voltage
- RoHS Compliant
- REACH Compliant

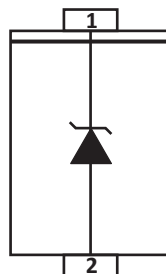
### APPLICATIONS

- Automotive Applications

### MECHANICAL CHARACTERISTICS

- Molded JEDEC SOD-323 Package
- Approximate Weight: 5 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

### PIN CONFIGURATION



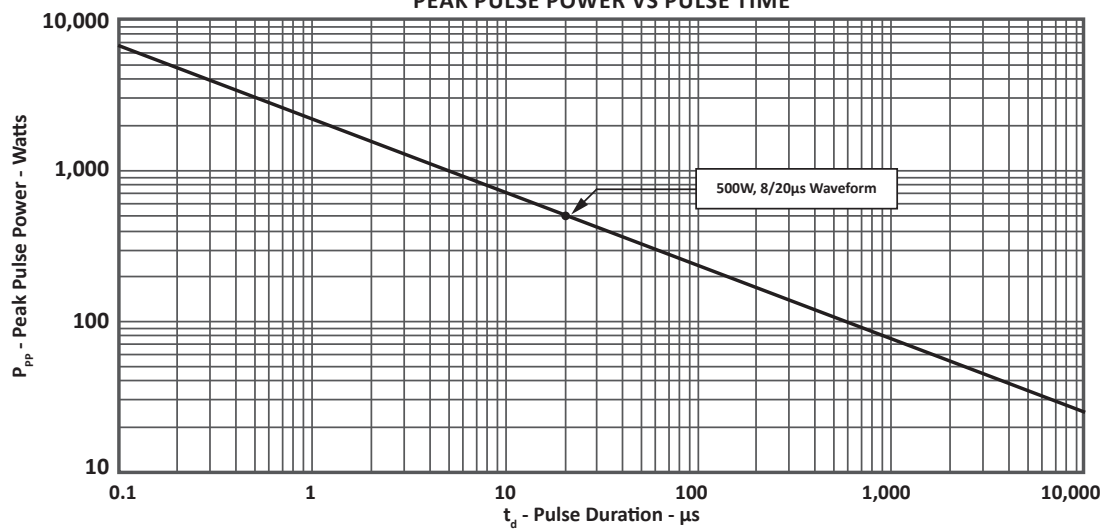
**TYPICAL DEVICE CHARACTERISTICS**
**MAXIMUM RATINGS @ 25°C Unless Otherwise Specified**

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	500	Watts
Operating Temperature	$T_L$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C

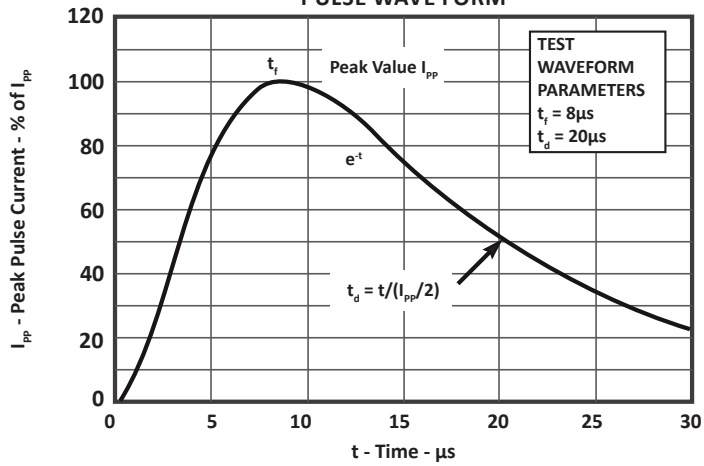
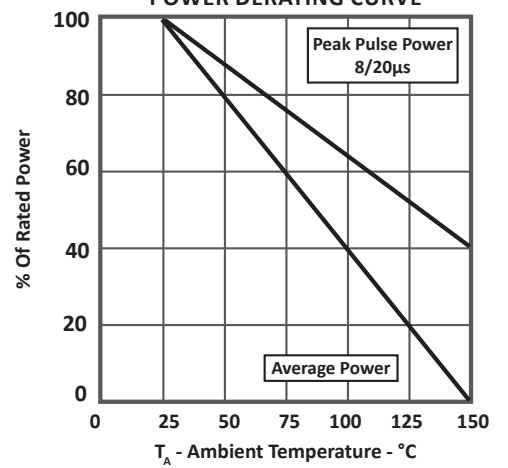
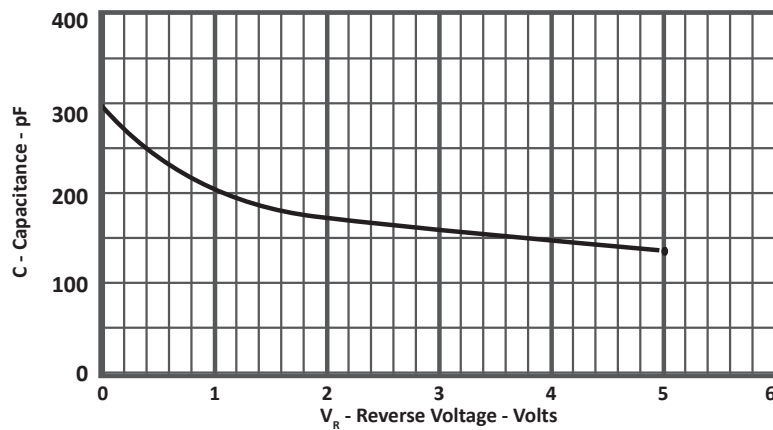
**ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified**

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_P = 1A$ $V_C$ VOLTS	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_D$ $\mu A$	TYPICAL CAPACITANCE @ 0V, 1MHz C pF
PAM26SD2305	B	5.0	6.0	9.8	10	350

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

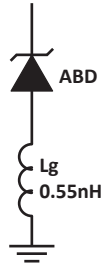


## TYPICAL DEVICE CHARACTERISTICS

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

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

**FIGURE 4**  
**TYPICAL REVERSE VOLTAGE VS CAPACITANCE**


## 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	$\mu$ A	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)	$R_s$ (OHMS)
PAM26SD2305	6.0	284	1E-11	0.14

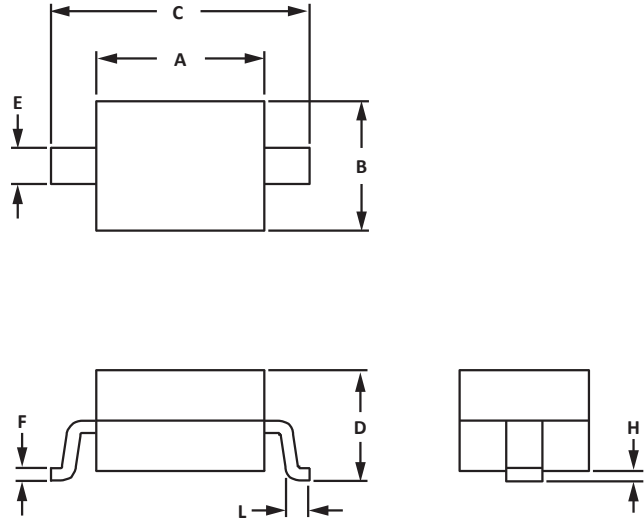
## SOD-323 PACKAGE INFORMATION

## 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.

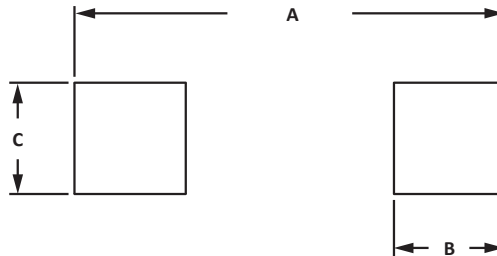


## PAD LAYOUT DIMENSIONS

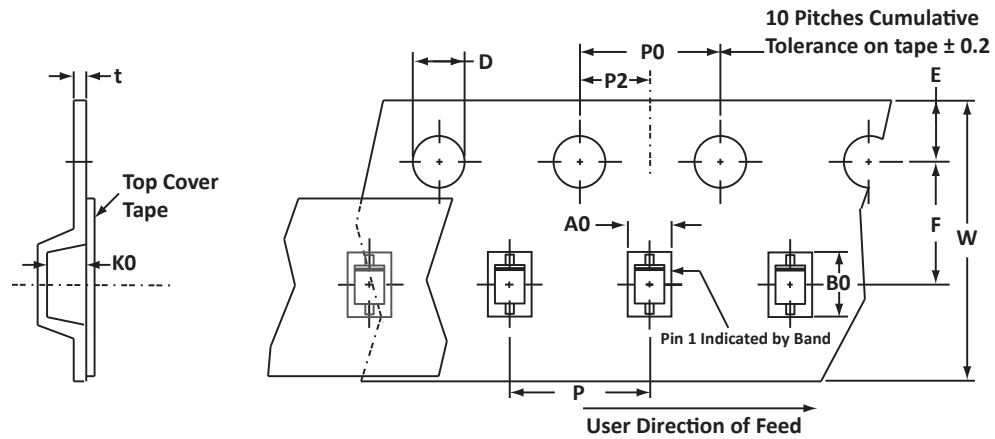
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

## 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).

Package outline, pad layout and tape specifications per document number 06010.R4 9/10.

## ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM26SD2305	N/A	-T7	3,000	7"	n/a

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

## COMPANY INFORMATION

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### 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.

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