

## 3000 WATT TVS COMPONENT



**DO-214AB PACKAGE**

### APPLICATIONS

- Automotive

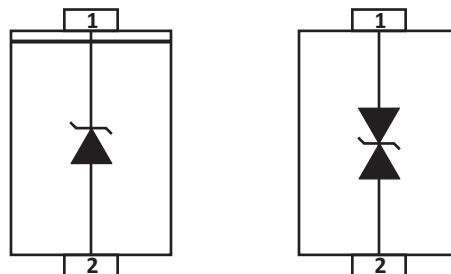
### FEATURES

- *AEC-Q101 Qualified*
- UL Registered
- IEC Compatibility 61000-4-2 (ESD)
- IEC Compatibility 61000-4-4 (EFT)
- IEC Compatibility 61000-4-5 (Surge)
- Glass Passivated Chip
- 3000 Watts Peak Pulse Power per Line ( $t_p = 10/1000\mu s$ )
- Low Leakage Current
- Unidirectional and Bidirectional Configurations
- Excellent Clamping Capability
- Very Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant
- REACH Compliant

### MECHANICAL CHARACTERISTICS

- Molded JEDEC DO-214AB Package
- Approximate Weight: 0.248 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- 16mm Tape and Reel Per EIA Standard 481
- Terminal: Solderable per MIL-STD-750, Method 2026
- Flammability Rating UL 94V-0

### PIN CONFIGURATIONS



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

PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	$T_A$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
Peak Pulse Power (tp =10/1000µs) - See Figure 1 and Note 2	$P_{PP}$	3000	Watts
Power Dissipation on Infinite Heatsink at $T_L = 75^\circ\text{C}$	$P_D$	6.0	Watts
Peak Forward Surge Current, 8.3ms single half sinewave - Unidirectional Only (Note 2)	$I_{FSM}$	300	Amps
Maximum Instantaneous Forward Voltage at 100A - Unidirectional Only	$V_F$	3.5	V

**NOTE**

1. Non-repetitive current pulse per Figure 2 and derated above  $T_A = 25^\circ\text{C}$  per Figure 2.
2. Measured on 8.3ms single half sinewave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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

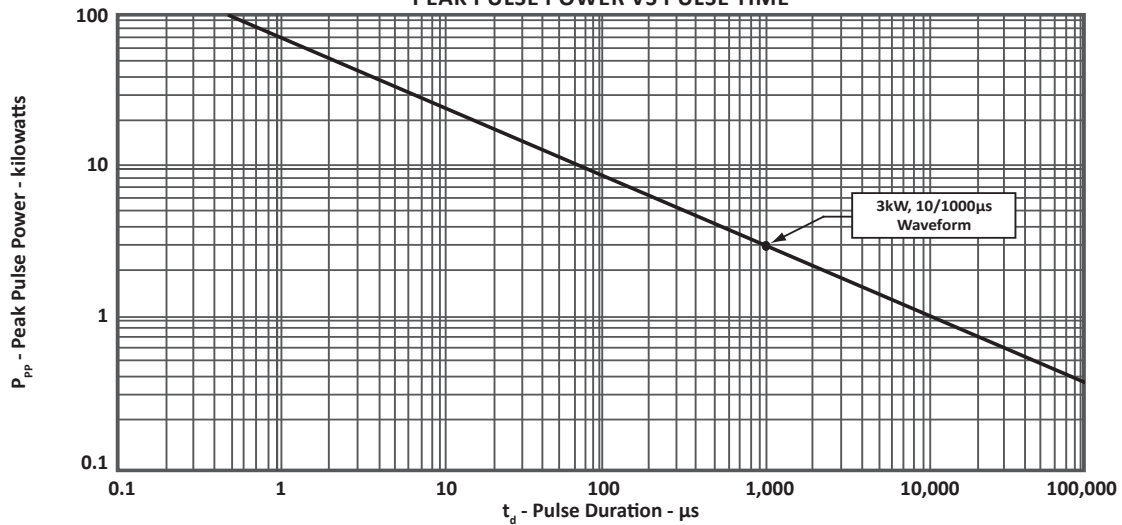
PART NUMBER (Note 1-2)	DEVICE MARKING		REVERSE STAND-OFF VOLTAGE  $V_{RWM}$ VOLTS	BREAKDOWN VOLTAGE  $V_{(BR)} @ I_T$ VOLTS		TEST CURRENT  $@ I_T$ mA	MAXIMUM CLAMPING VOLTAGE (Fig. 2)  $@ I_P$ $V_C$ VOLTS	MAXIMUM REVERSE SURGE CURRENT  $@ I_{PP}$ AMPS	MAXIMUM REVERSE LEAKAGE CURRENT  $@ V_{RWM}$ $I_R$ µA
	UNI	BI		MIN	MAX				
PAM32DOAB20A	PEV	DEV	20.0	22.20	24.50	5	32.4	92.5	2
PAM32DOAB22A	PEX	DEX	22.0	24.40	26.90	5	35.5	84.5	2
PAM32DOAB26A	PFE	DFE	26.0	28.90	31.9	5	42.1	71.3	2
PAM32DOAB28A	PFG	DFG	28.0	31.10	34.40	5	45.4	66.1	2
PAM32DOAB30A	PFK	DFK	30.0	33.30	36.80	5	48.4	62.0	2
PAM32DOAB36A	PFP	DFP	36.0	40.00	44.20	5	58.1	51.6	2

**NOTE**

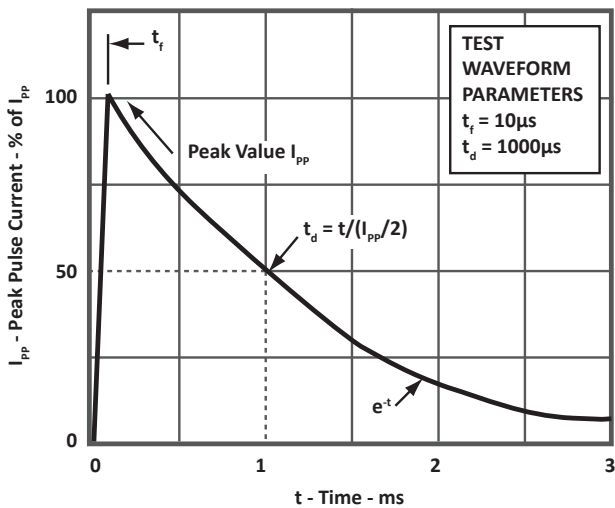
1. 5% tolerance.
2. Add suffix 'CA' after part number to specify a bidirectional device, i.e., PAM32DOAB22CA.

**TYPICAL DEVICE CHARACTERISTICS**

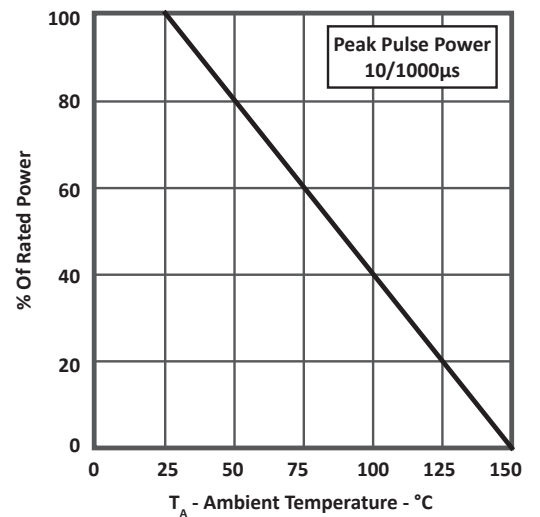
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



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

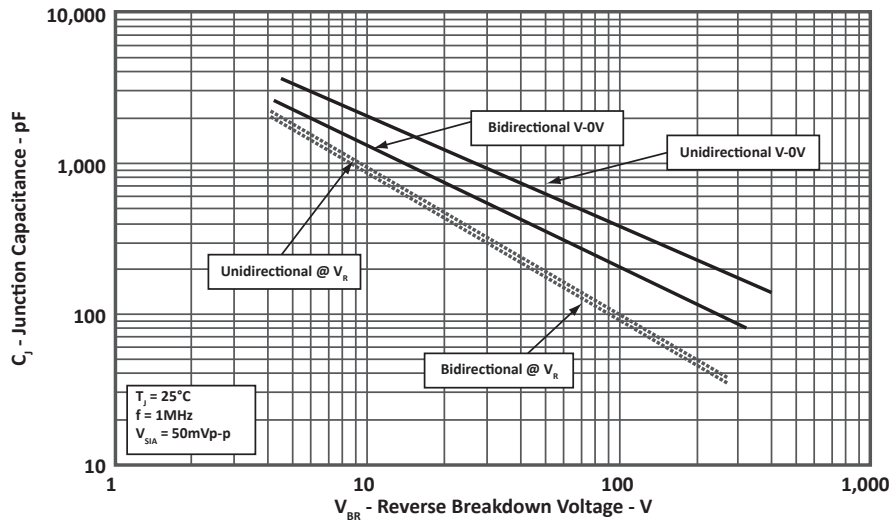


**FIGURE 3**  
**POWER DERATING CURVE**

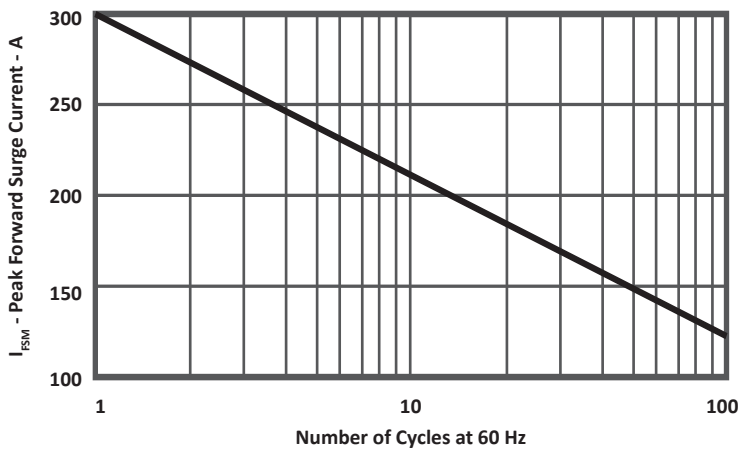


**TYPICAL DEVICE CHARACTERISTICS**

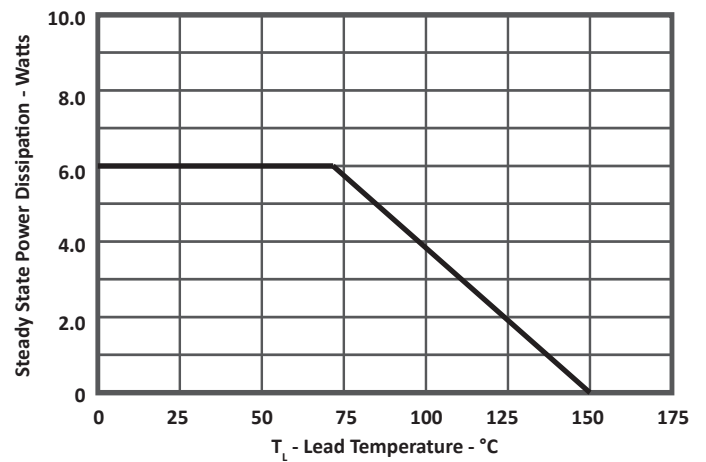
**FIGURE 4**  
**TYPICAL JUNCTION CAPACITANCE**



**FIGURE 5**  
**MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIGURE 6**  
**STEADY STATE POWER DERATING CURVE**

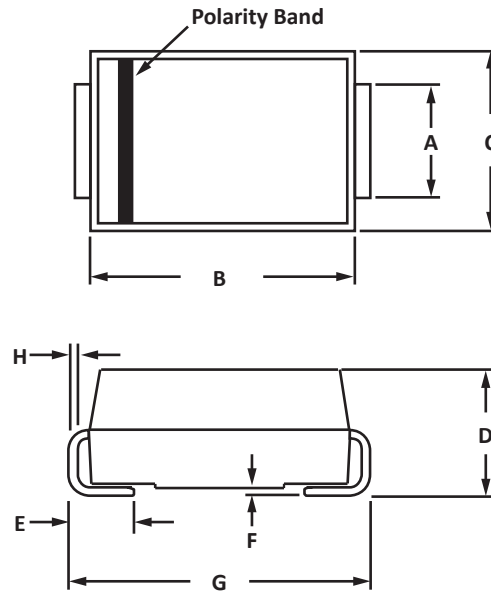


**PACKAGE INFORMATION**
**OUTLINE DIMENSIONS**

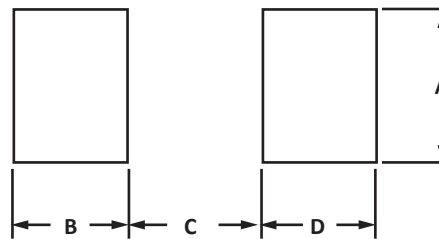
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.86	3.16	0.114	0.126
B	6.52	7.02	0.260	0.280
C	5.52	6.15	0.220	0.245
D	1.98	2.59	0.079	0.103
E	0.75	1.51	0.030	0.060
F	0.00	0.20	0.000	0.008
G	7.64	8.02	0.305	0.320
H	0.15	0.30	0.006	0.012

**NOTES**

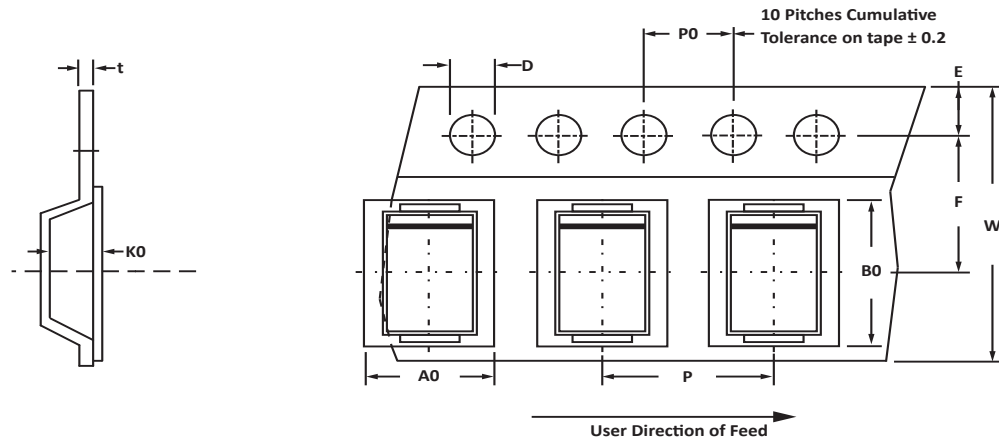
1. Dimensions are exclusive of mold flash and metal burrs.


**PAD LAYOUT DIMENSIONS**

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.43	-	0.135	-
B	2.03	-	0.080	-
C	-	4.32	-	0.170
D	2.03	-	0.080	-



## TAPE AND REEL



## SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P	tmax
330mm (13")	16mm	6.05 ± 0.10	8.31 ± 0.10	2.54 ± 0.10	1.55 ± 0.05	1.75 ± 0.10	7.5 ± 0.10	16.00 ± 0.30	4.00 ± 0.10	8.00 ± 0.10	0.4

## NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T13 = 13" Reel - 3,000 pieces and T500 = 7" Reel - 500 pieces per 16mm tape.
- Marking on Part - marking code (see page 2), date code, logo and cathode defined by polarity band.

## ORDERING INFORMATION

BASE PART NUMBER (Voltage = xx)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM32DOABxxA	N/A	-T13	3,000	13"	N/A
PAM32DOABxxA	N/A	-T500	500	7"	N/A
PAM32DOABxxCA	N/A	-T13	3,000	13"	N/A
PAM32DOABxxCA	N/A	T500	500	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 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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