

## 600 WATT TVS COMPONENT



## APPLICATIONS

- Automotive

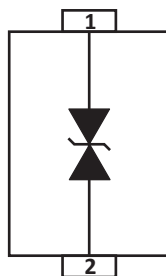
## FEATURES

- **AEC-Q101 Qualified**
- UL File Recognition #E208219
- Compatible with IEC 61000-4-2 (ESD): Level 4: Air  $\pm 15\text{kV}$ , Contact  $\pm 8\text{kV}$
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20 $\mu\text{s}$  Waveform
- Glass Passivated Chip
- 600 Watts Peak Pulse Power per Line ( $t_p = 10/1000\mu\text{s}$ )
- Low Leakage Current
- Bidirectional Configuration
- Excellent Clamping Capability
- Very Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant
- REACH Compliant

## MECHANICAL CHARACTERISTICS

- Molded JEDEC DO-214AA Package
- Approximate Weight: 0.103 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Terminal: Solderable per MIL-STD-750, Method 2026
- Flammability Rating UL 94V-0

## PIN CONFIGURATION



## TYPICAL DEVICE CHARACTERISTICS

## MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

| PARAMETER  | SYMBOL    | VALUE      | UNITS |
|--|-----------|------------|-------|
| Operating Temperature  | $T_J$     | -55 to 150 | °C    |
| Storage Temperature  | $T_{STG}$ | -55 to 150 | °C    |
| Peak Pulse Power (tp =10/1000µs) - See Figure 1 and Note 1         | $P_{PP}$  | 600        | Watts |
| Power Dissipation on Infinite Heatsink at $T_L = 75^\circ\text{C}$ | $P_D$     | 5.0        | Watts |

## NOTE

1. Non-repetitive current pulse per Figure 2 and derated above  $T_A = 25^\circ\text{C}$  per Figure 3.

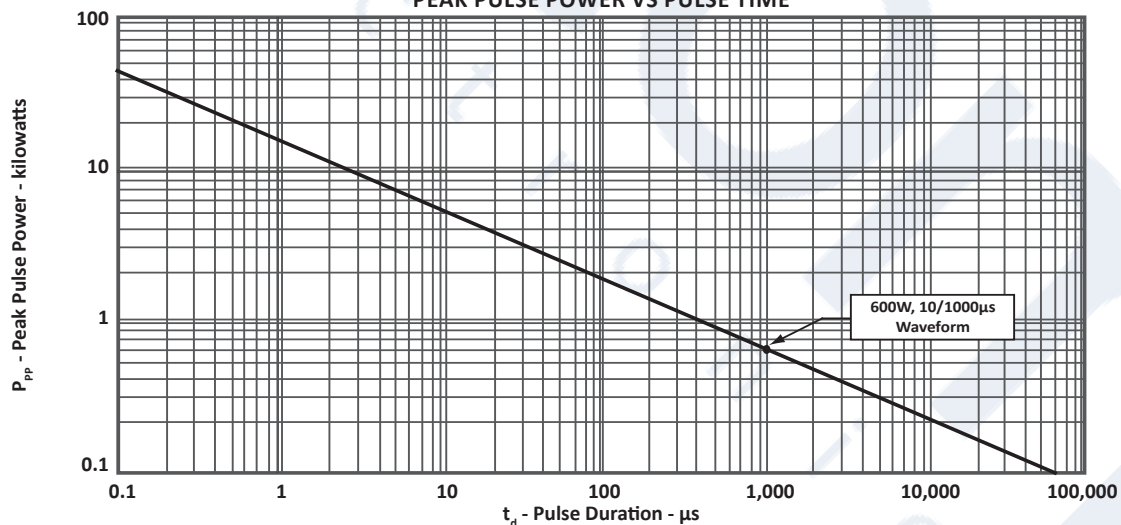
## ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

| PART NUMBER<br>(Note 1) | DEVICE MARKING | REVERSE STAND-OFF VOLTAGE<br><br>$V_{RWM}$<br>VOLTS | BREAKDOWN VOLTAGE<br><br>$V_{(BR)} @ I_T$<br>VOLTS |       | TEST CURRENT<br><br>@ $I_T$<br>mA | MAXIMUM CLAMPING VOLTAGE (Fig. 2)<br><br>@ $I_P$<br>$V_C$<br>VOLTS | MAXIMUM REVERSE SURGE CURRENT<br><br>@ $I_{PP}$<br>AMPS | MAXIMUM REVERSE LEAKAGE CURRENT<br><br>@ $V_{RWM}$<br>$I_R$<br>µA |
|-------------------------|----------------|---|--|-------|-----------------------------------|--|---|---|
|                         |                |   | MIN  | MAX   |                                   |  |   |   |
|                         |                |   | PAM29DOAA26CA                                      | CE    |                                   |  |   |   |
| PAM29DOAA28CA           | CG             | 28.0  | 31.10  | 34.40 | 1                                 | 45.4   | 13.2  | 1   |
| PAM29DOAA33CA           | CM             | 33.0  | 36.70  | 40.60 | 1                                 | 53.3   | 11.3  | 1   |

## NOTE

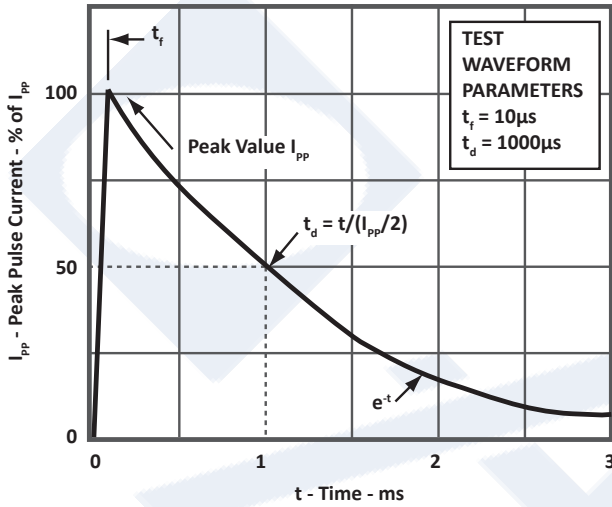
1. 5% tolerance.

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

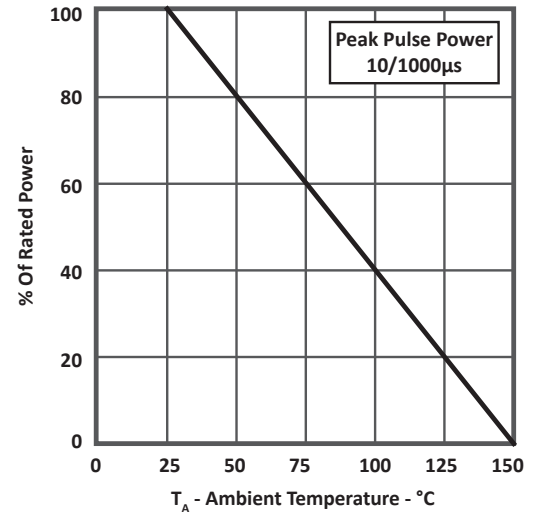


**TYPICAL DEVICE CHARACTERISTICS**

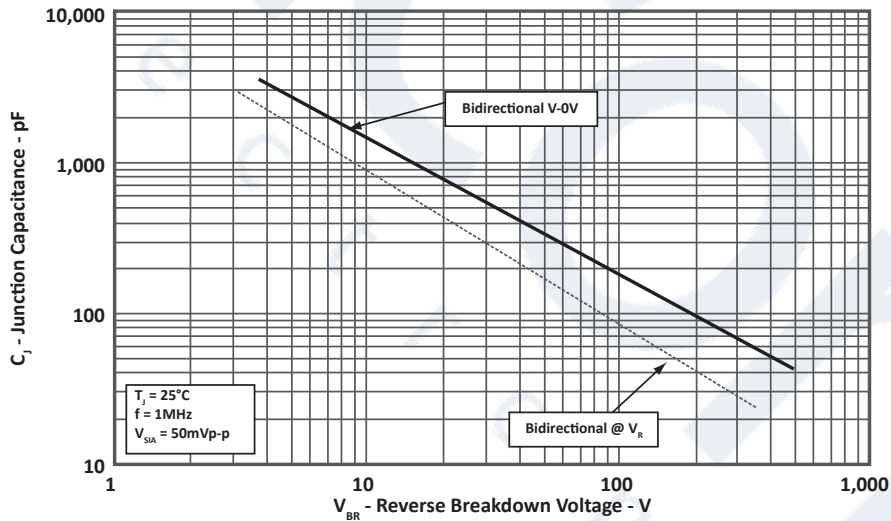
**FIGURE 2  
PULSE WAVEFORM**



**FIGURE 3  
POWER DERATING CURVE**



**FIGURE 4  
TYPICAL JUNCTION CAPACITANCE**



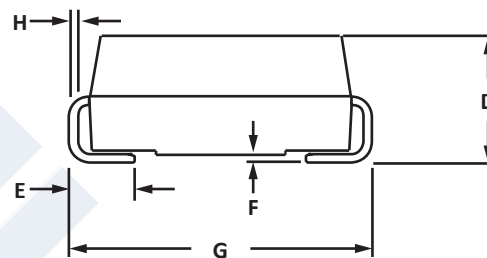
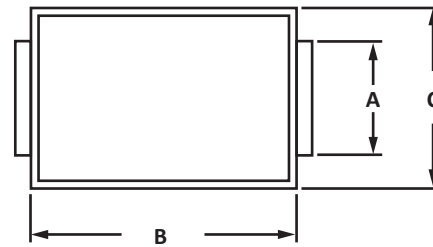
## DO-214AA PACKAGE INFORMATION

## OUTLINE DIMENSIONS

| DIM | MILLIMETERS |      | INCHES |       |
|-----|-------------|------|--------|-------|
|     | MIN         | MAX  | MIN    | MAX   |
| A   | 1.96        | 2.20 | 0.077  | 0.087 |
| B   | 4.35        | 4.85 | 0.171  | 0.191 |
| C   | 3.30        | 3.94 | 0.130  | 0.155 |
| D   | 2.13        | 2.44 | 0.084  | 0.096 |
| E   | 0.75        | 1.52 | 0.030  | 0.060 |
| F   | 0.02        | 0.20 | 0.001  | 0.008 |
| G   | 5.10        | 5.50 | 0.201  | 0.216 |
| H   | 0.15        | 0.30 | 0.006  | 0.012 |

## NOTES

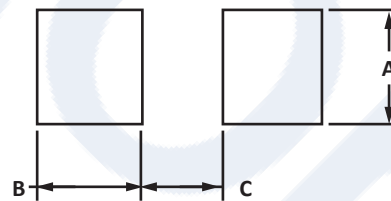
1. Dimensions are exclusive of mold flash and metal burrs.



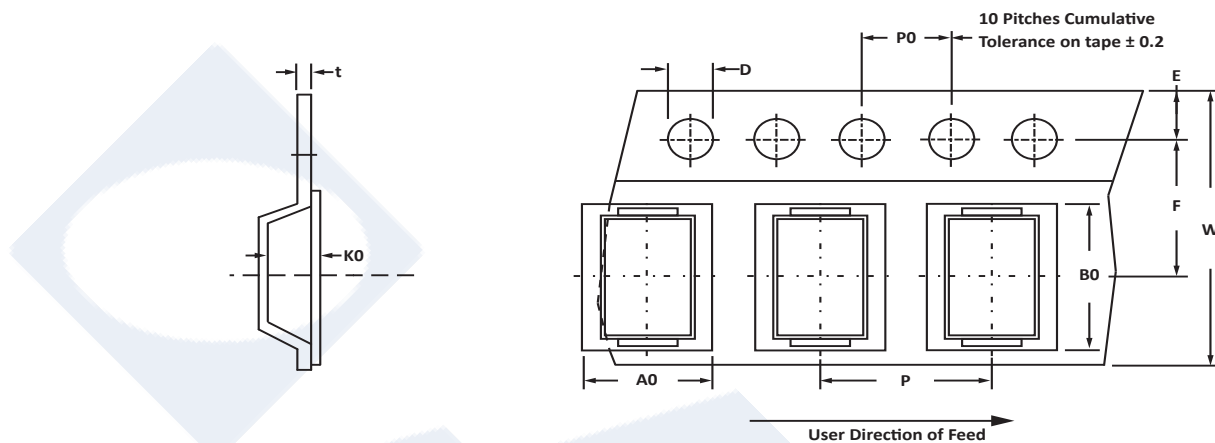
PROTEK DEVICES

## PAD LAYOUT DIMENSIONS

| DIM | MILLIMETERS |      | INCHES |      |
|-----|-------------|------|--------|------|
|     | MIN         | MAX  | MIN    | MAX  |
| A   | 2.03        | -    | 0.080  | -    |
| B   | 1.91        | -    | 0.075  | -    |
| C   | -           | 2.54 | -      | 1.00 |
| D   | 1.91        | -    | 0.075  | -    |



## TAPE AND REEL



## SPECIFICATIONS

| REEL DIA.   | TAPE WIDTH | A0          | B0          | K0          | D           | E           | F          | W            | P0          | P           | tmax |
|-------------|------------|-------------|-------------|-------------|-------------|-------------|------------|--------------|-------------|-------------|------|
| 330mm (13") | 12mm       | 3.67 ± 0.10 | 5.69 ± 0.10 | 2.67 ± 0.10 | 1.55 ± 0.10 | 1.75 ± 0.10 | 5.5 ± 0.05 | 12.00 ± 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 and logo.

## ORDERING INFORMATION

| BASE PART NUMBER<br>(Voltage = xx) | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------------------------|-----------------|-------------|----------|-----------|----------|
| PAM29DOAAxxCA                      | N/A             | -T500       | 500      | 7"        | N/A      |
| PAM29DOAAxxCA                      | N/A             | -T13        | 3,000    | 13"       | N/A      |

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