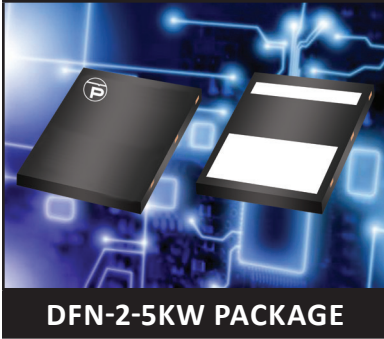


## 5000 WATT TVS COMPONENT



### DESCRIPTION

The PAM25DF25Kxx Series are high-powered surface mount transient voltage suppression components designed to protect automotive systems from the damaging effects of high voltage spikes. The DFN-2-5KW surface mount package configuration provides a lower profile at a reduced cost. These devices provide 5,000 Watts of peak pulse power dissipation for an 10/1000 $\mu$ s waveform.

### FEATURES

- **AEC-Q101 Qualified  $\pm 8kV$  Contact Discharge**
- Complies with AEC-Q200-000 8kV Contact > 25kV Air
- Compatible with IEC 61000-4-2 (ESD): Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-5 (Surge): 48A, 8/20 $\mu$ s - L3(Line-Ground), L4(Line-Line) & L1 (Power)
- 5,000 Watts Peak Pulse Power per Line ( $t_p = 10/1000\mu s$ )
- Unidirectional Configuration
- Easy Mounting to Printed Circuit Board
- RoHS Compliant
- REACH Compliant

### MECHANICAL CHARACTERISTICS

- Molded DFN-2-5KW
- Approximate Weight: 2.5 grams
- Lead-Free Silver Plating
- Solder Reflow Temperature: 260-270°C
- Flammability Rating UL 94V-0

### APPLICATIONS

- Automotive Applications

## APPLICATION



## TYPICAL DEVICE CHARACTERISTICS

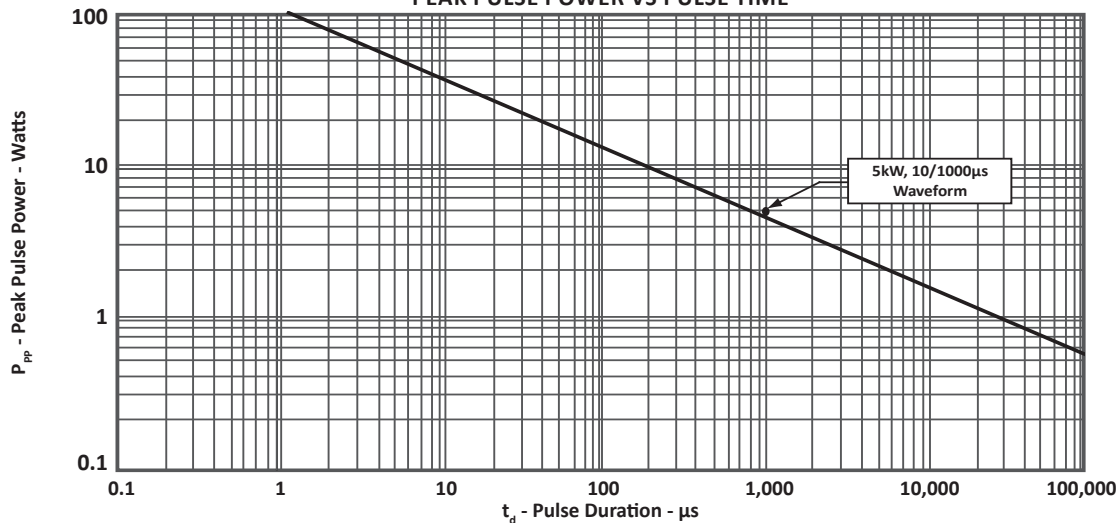
## MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 10/1000\mu s$ ) - See Figure 1	$P_{PP}$	5,000	Watts
Storage Temperature	$T_{STG}$	-55 to +150	°C
Operating Temperature	$T_L$	-55 to +150	°C

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

PART NUMBER	MARKING CODE	RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE		MAXIMUM LEAKAGE CURRENT $@ V_{WM}$ $I_D$ $\mu A$	MAXIMUM CLAMPING VOLTAGE (Fig. 2) $@ 10/1000\mu s$ $V_C @ I_{PP}$
			MIN $V_{(BR)}$ VOLTS	$@ I_T$ mA		
PAM25DF25K33	5U33	33	36.8	5	8	53.3V @ 94.0A
PAM25DF25K36	5U36	36	40.2	5	8	58.1V @ 86.0A

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME



## TYPICAL DEVICE CHARACTERISTICS

FIGURE 2  
PULSE WAVEFORM

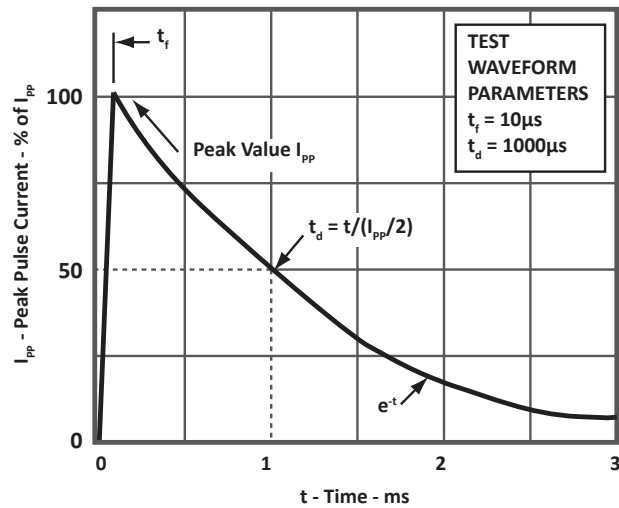
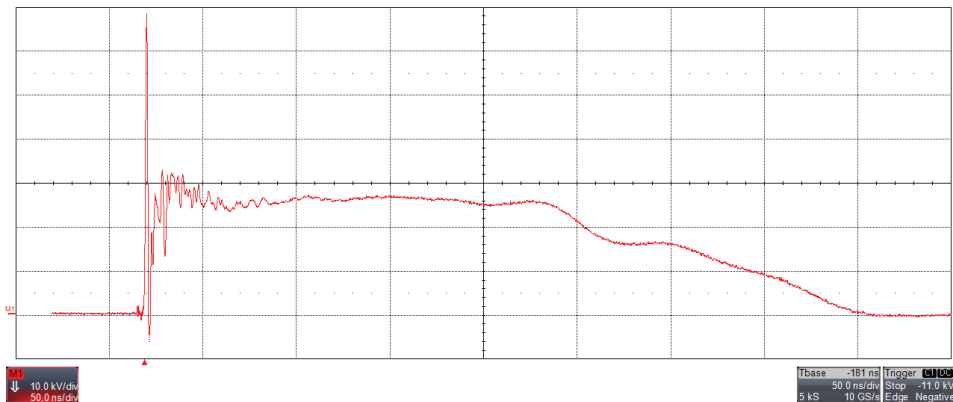
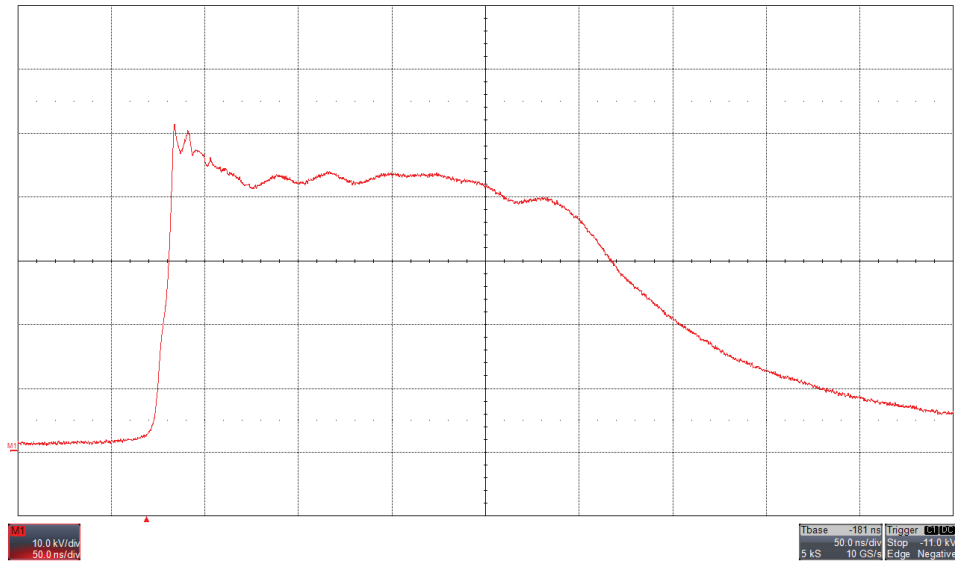


FIGURE 3  
15KV CONTACT DISCHARGE WAVEFORM



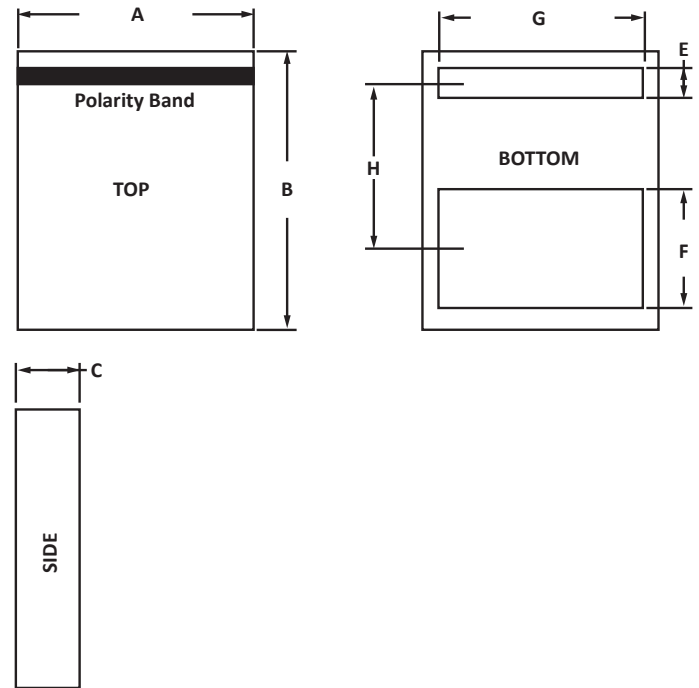
**TYPICAL DEVICE CHARACTERISTICS****FIGURE 4**  
**30KV AIR DISCHARGE WAVEFORM**

## DFN-2-5KW PACKAGE INFORMATION

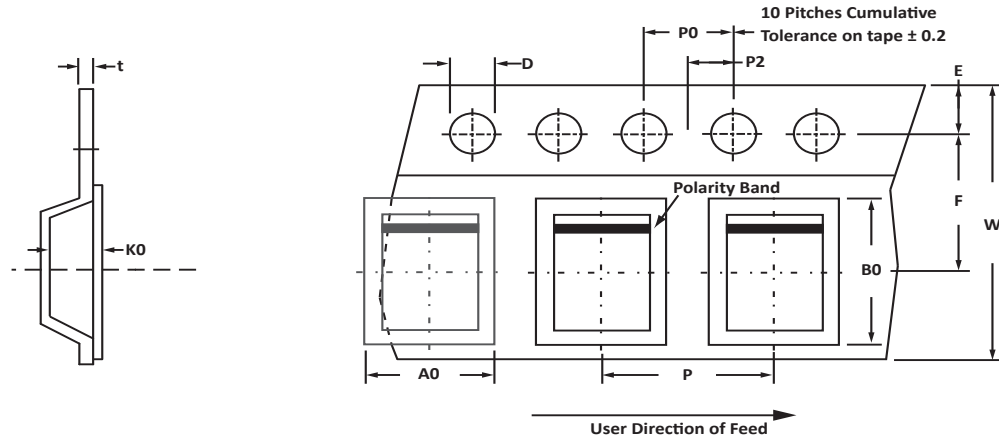
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	6.53	6.68	0.257	0.263
B	7.54	7.70	0.297	0.303
C	1.22	1.33	0.048	0.052
E	0.69	0.84	0.027	0.033
F	3.05	3.30	0.120	0.130
G	5.08	5.33	0.200	0.210
H	4.70	4.88	0.185	0.192

**NOTES**

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



## TAPE AND REEL



## SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
330mm (13")	16mm	6.98 ± 0.10	8.00 ± 0.10	1.66 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50±0.05	16.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.10	0.25

## NOTES

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

## ORDERING INFORMATION

BASE PART NUMBER (XX = VOLTAGE)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM25DF25Kxx	n/a	-T13	2,500	13"	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 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.

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