

MODULE

## DESCRIPTION

The PNH1275 and PNH1275B are high power transient voltage suppressors (TVS) designed to provide protection against long duration switching transient threats. These heavy duty devices are suited for DC applications that include heavy duty motors, generators, or where DC power is being switched on and off at frequent intervals.

## FEATURES

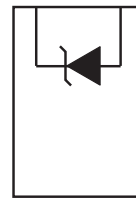
- RTCA DO-160G COMPLIANT PRODUCT
- MIL-STD-1275E SEC 5.3.3.2 COMPLIANT PRODUCT
- Compatible with IEC 61000-4-5 (Surge): 20kA, 8/20 $\mu$ s Level 3(Line-Gnd) & Level 4(Line-Line)
- 45,000 Watts Peak Pulse Power per Line (tp = 1ms)
- High Average (DC) Power Dissipation
- Unidirectional and Bidirectional Configurations
- Superior Heat Dissipation Capability
- Each Device 100% Tested
- CE Compliant
- Capable of Handling 100A Single Rectangular Pulse Current for 200ms

## MECHANICAL CHARACTERISTICS

- Approximate Weight: 65 grams

## APPLICATIONS

- Remote DC Power Supply, Base Station & Microwave Protection
- MIL-STD-1275 Power Bus Protection
- Electric Drive Motors & Controls
- Mobile Electronics Operating in Harsh Environments



UNIDIRECTIONAL



BIDIRECTIONAL

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 1ms) - See Figure 1 & 2	$P_{pp}$	45	kilowatts
Operating Temperature	$T_j$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
Steady State Power Dissipation (derate 2.33W/°C)	$P_d$	50	Watts

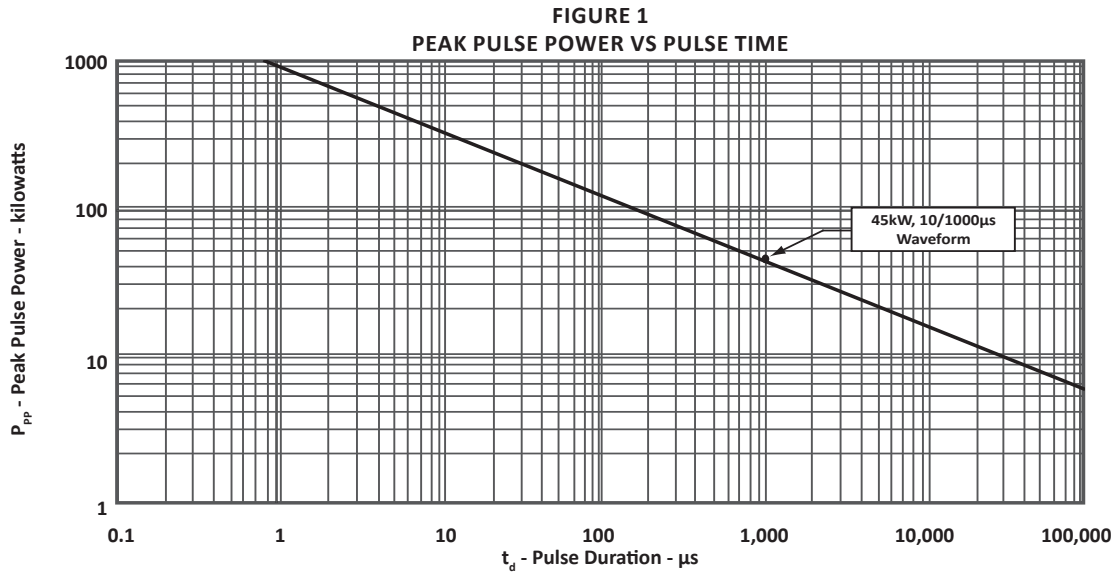
### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (Note 1)	RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE		MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 865A 10/1000 $\mu$ s $V_c$ VOLTS	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_D$ $\mu$ A	MAXIMUM PEAK PULSE CURRENT (Fig. 2) $I_{PPM}$ AMPS	MAXIMUM OPERATING CURRENT (Fig. 3) $I_{PPM}$ AMPS
		$V_{(BR)}$ VOLTS	@ $I_T$ mA				
PNH1275	28	32	30	52	60	865	750
PNH1275B	28	32	30	52	60	865	750

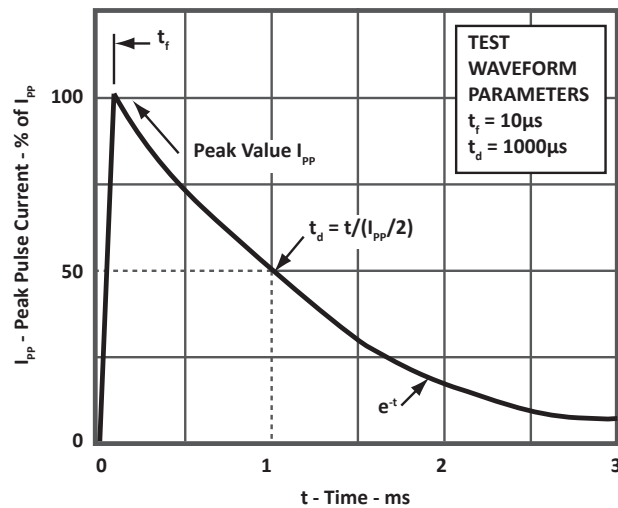
#### NOTE

1. Maximum VF = 3.5V @ 100A, 8.3ms (sine wave) - Unidirectional Only.

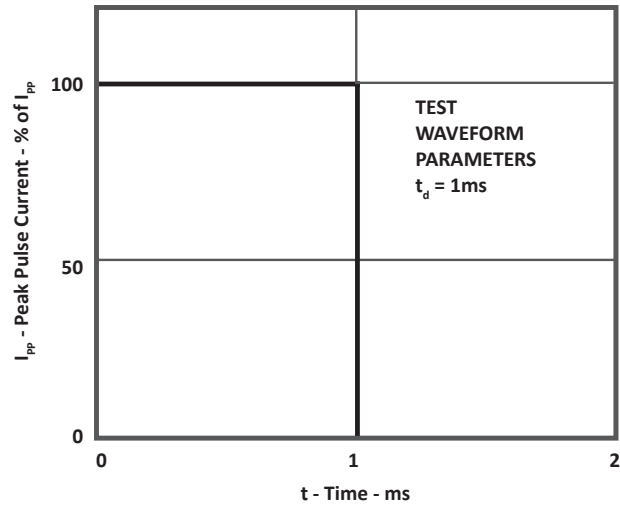
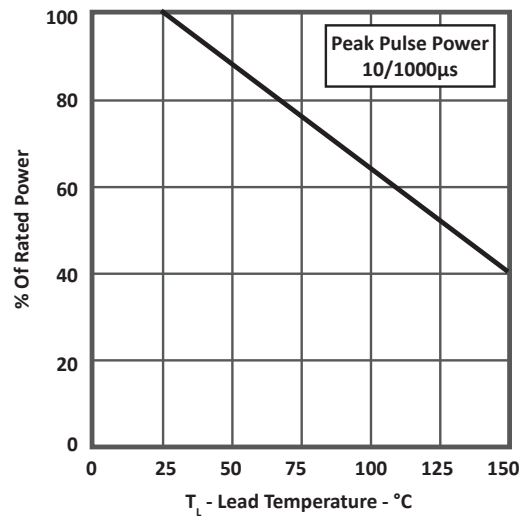
## HIGH ENERGY - EXTENDED PULSE TVS



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



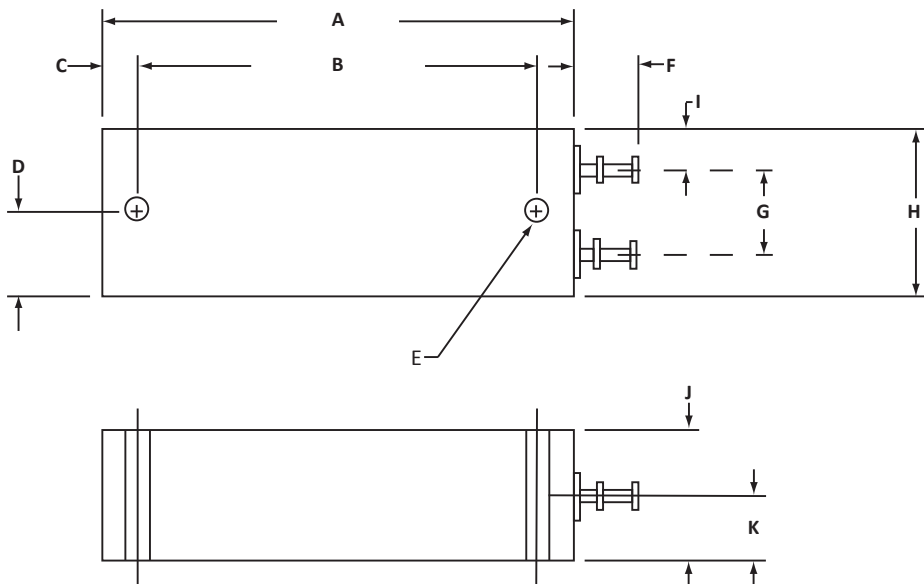
## TYPICAL DEVICE CHARACTERISTICS

**FIGURE 3**  
**PULSE WAVEFORM****FIGURE 4**  
**POWER DERATING CURVE**

**PACKAGE INFORMATION**

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	62.74	64.26	2.47	2.53
B	53.34	54.48	2.10	2.145
C	4.32	5.33	0.17	0.21
D	10.54	12.07	0.415	0.475
E	3.18 DIA		0.125 DIA	
F	8.26	9.27	0.325	0.365
G	11.43		0.45	
H	21.84	23.37	0.86	0.92
I	5.59		0.22	
J	16.51	17.53	0.65	0.69
K	8.51		0.335	

**NOTES**  
1. Dimensions "E", "G", "I" and "K" are nominal.


**ORDERING INFORMATION**

BASE PART NUMBER	MARKING
PNH1275 or PNH1275B	Logo, Date Code, Part Number and Polarity Dot (Unidirectional Only)

## 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 an ISO 9001 certified company.

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