

## HIGH POWERED SURGE PROTECTION TVS ARRAY



### DESCRIPTION

The PVCOM24 is a powerful transient voltage suppressor designed to protect sensitive electronics from damage or latch-up due to EOS, lightning, CDE and ESD. This device offers board level protection with its fast response time, low operating voltage and clamping voltage. The PVCOM24 protects against a wide array of applications including industrial equipment, battery protection and fast charging USB Type-C interfaces. The PVCOM24 meets IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements. This device is offered in a DFN-2 package configuration.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air  $\pm 30\text{kV}$ , Contact  $\pm 30\text{kV}$
- Compatible with IEC 61000-4-4 (EFT): 4kV - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 37A, 8/20 $\mu\text{s}$
- 1600 Watts Peak Pulse Power per Line (tp = 8/20 $\mu\text{s}$ )
- Similar size as SOD-532 or 1.6mm x 0.8mm
- Unidirectional Configuration
- Low Leakage Current
- Low Clamping Voltage
- High Peak Pulse Current Capability
- RoHS Compliant
- REACH Compliant

### APPLICATIONS

- Industrial Equipment
- Battery Protection
- USB Fast Charging Voltage Bus
- Mobile Devices

### MECHANICAL CHARACTERISTICS

- DFN-2 Package
- Approximate Weight: 3mg
- Lead-Free Plating
- 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 (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	1600	Watts
Peak Pulse Current (tp = 8/20μs)	I <sub>PP</sub>	37	Amps
Operating Temperature	T <sub>J</sub>	-40 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C
ESD Voltage Level per IEC 61000-4-2 (Air and Contact)	V <sub>ESD</sub>	±30	kV

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

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V <sub>WM</sub> VOLTS	@ 1mA V <sub>(BR)</sub> VOLTS	@ 8/20μs V <sub>C</sub> @ IPP VOLTS	@V <sub>WM</sub> I <sub>D</sub> μA	@0V, 1MHz C pF
PVCOM24	V24	24.0	26.0	45V @ 37A	200	197.0

## TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

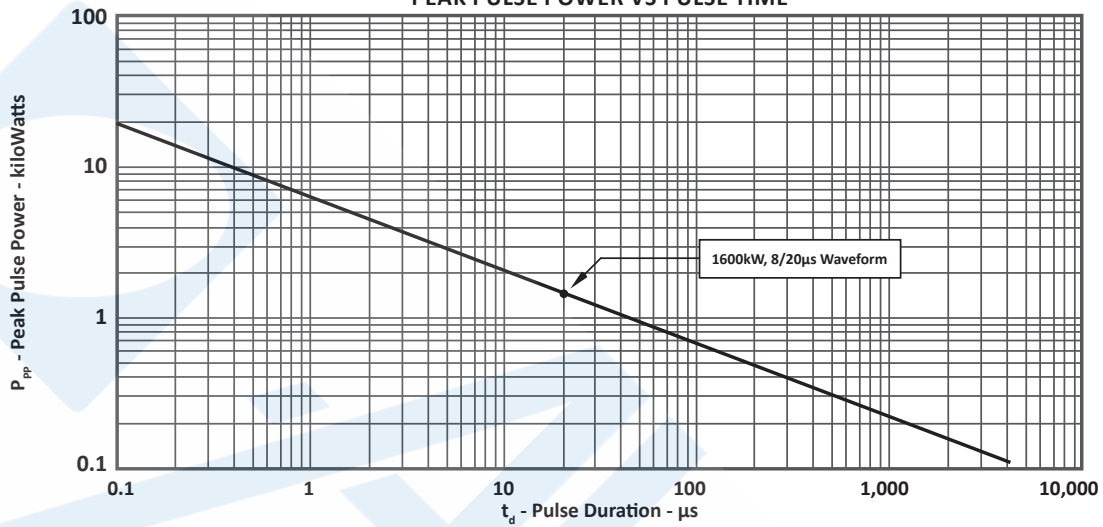
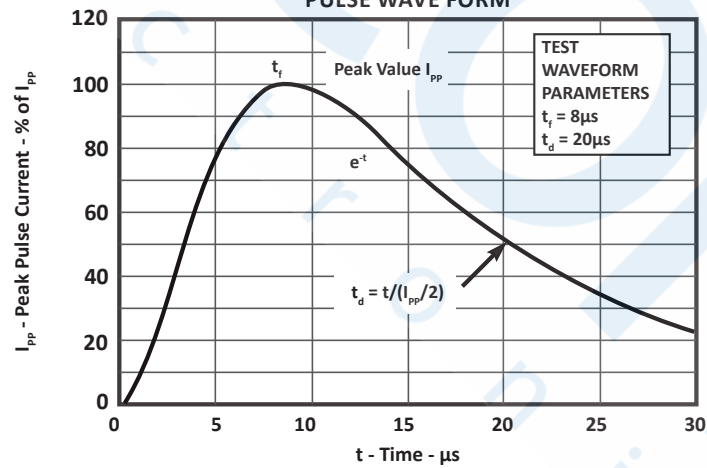


FIGURE 2  
PULSE WAVE FORM



## TYPICAL DEVICE CHARACTERISTICS

FIGURE 3  
TYPICAL CLAMPING VOLTAGE 8/20 $\mu$ s

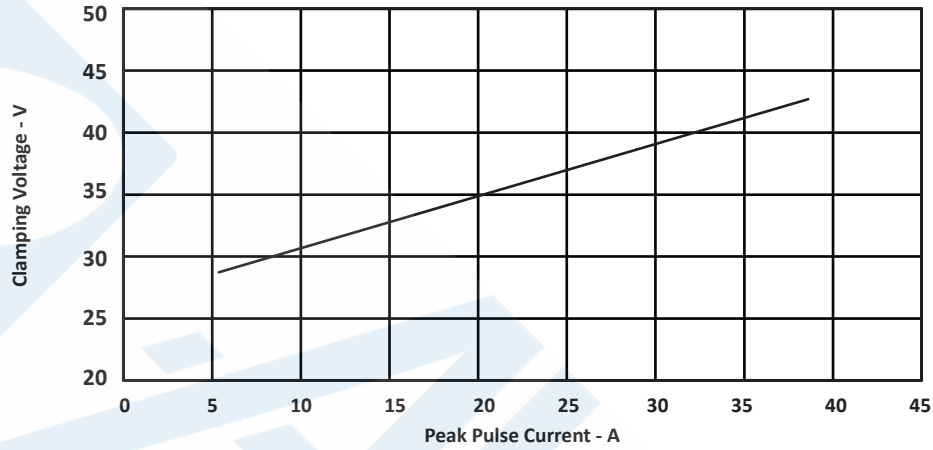
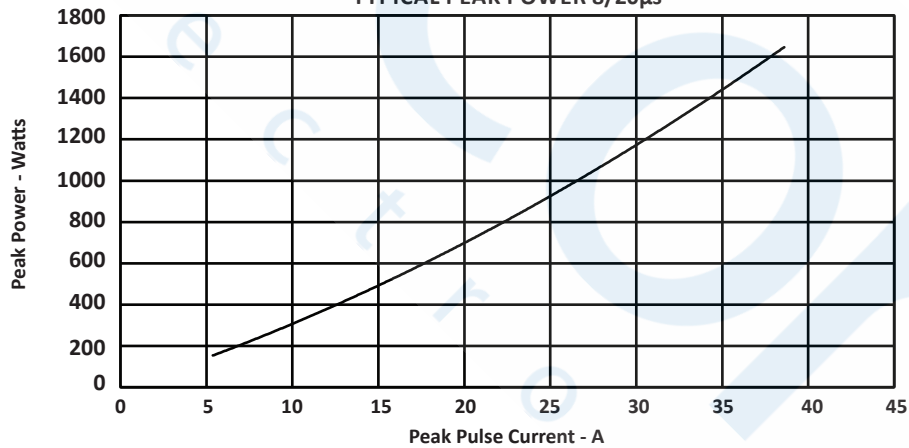


FIGURE 4  
TYPICAL PEAK POWER 8/20 $\mu$ s

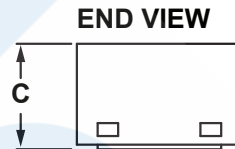
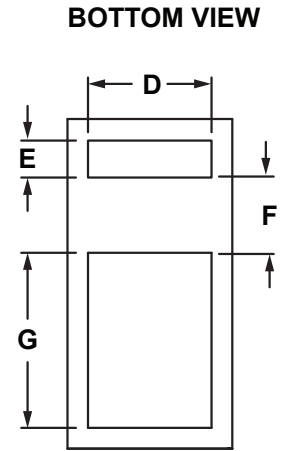
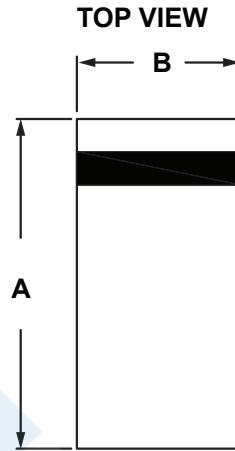


**PACKAGE INFORMATION**

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	0.72	0.88	0.028	0.035
C	0.47	0.56	0.018	0.022
D	0.55	0.65	0.022	0.026
E	0.15	0.22	0.006	0.009
F	0.33	0.40	0.013	0.016
G	0.81	0.89	0.032	0.035

**NOTES**

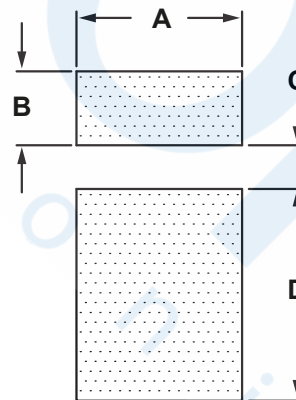
1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Dimensions are exclusive of mold flash and metal burrs.



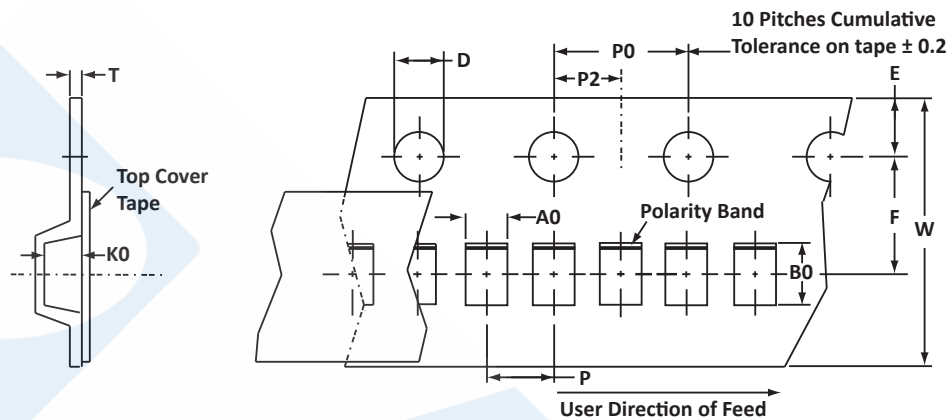
PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.80	0.032
B	0.36	0.014
C	0.21	0.008
D	1.03	0.040

**NOTES**

1. 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	0.93 ± 0.05	1.78 ± 0.10	0.63 ± 0.05	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	0.25

## NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Marking on Part - marking code (see page 2) and polarity band (unidirectional devices).

## ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PVCOM24	n/a	-T710	10,000	7"	n/a

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

## COMPANY INFORMATION

### COMPANY PROFILE

In business more than 30 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection that include Transient Voltage Suppressor (TVS) Arrays, Steering Diode Array Hybrids, High-power Components and Modules, as well as Steering Diodes, EMI Filter/TVS Arrays and Thyristor Surge Suppressors. These components deliver circuit protection in electronic systems from numerous overvoltage events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices is an ISO 9001 certified company.

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