HIGH POWERED SURGE PROTECTION TVS ARRAY

DFN-2 PACKAGE

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 ±30kV, Contact ±30kV
- Compatible with IEC 61000-4-4 (EFT): 4kV - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 37A, 8/20µs
- 1600 Watts Peak Pulse Power per Line (tp = 8/20µs)
- 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_{PP}	1600	Watts
Peak Pulse Current (tp = 8/20µs)	I_{PP}	37	Amps
Operating Temperature	T_J	-40 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
ESD Voltage Level per IEC 61000-4-2 (Air and Contact)	V_{ESD}	±30	kV

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20µs V_C @ IPP VOLTS	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	TYPICAL CAPACITANCE @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

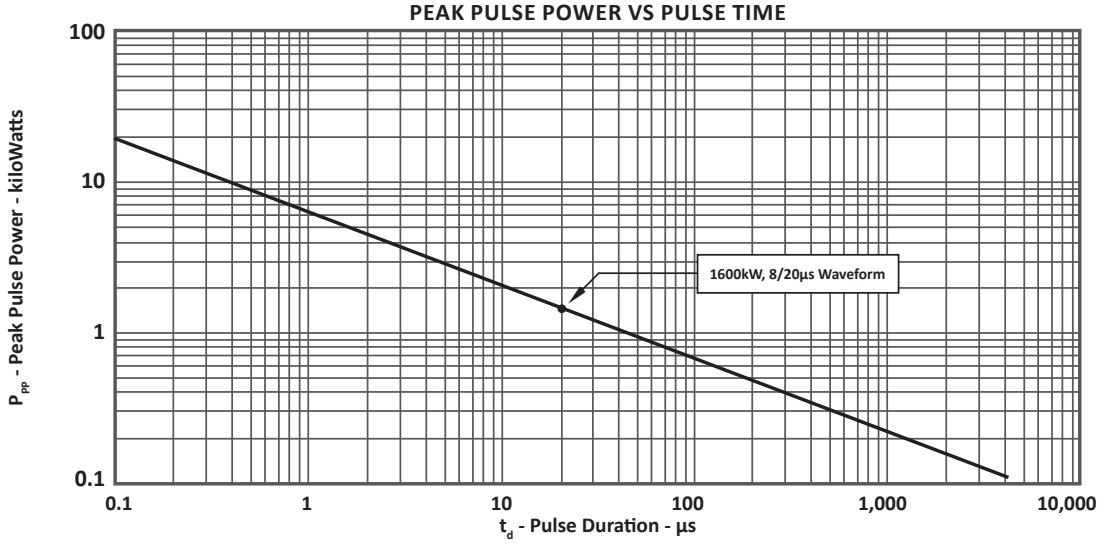
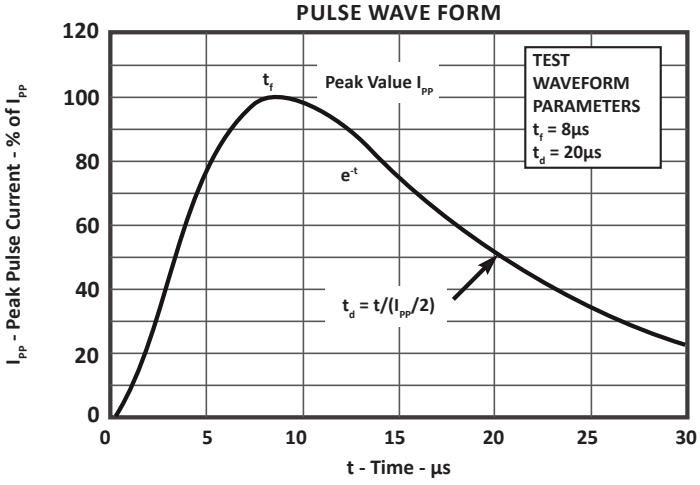


FIGURE 2
PULSE WAVE FORM



TYPICAL DEVICE CHARACTERISTICS

FIGURE 3
TYPICAL CLAMPING VOLTAGE 8/20µs

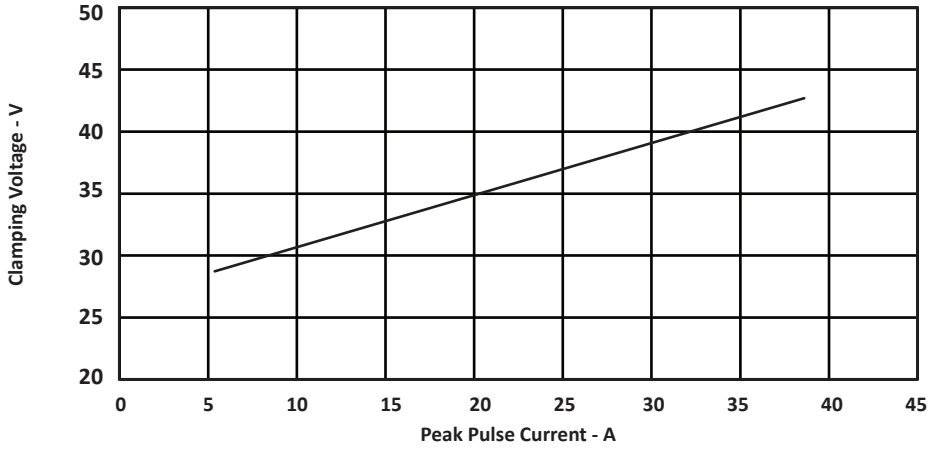
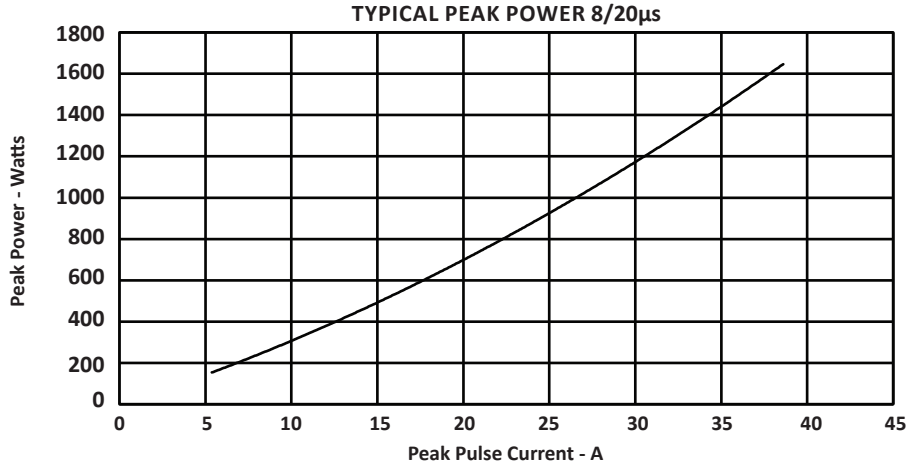


FIGURE 4
TYPICAL PEAK POWER 8/20µs

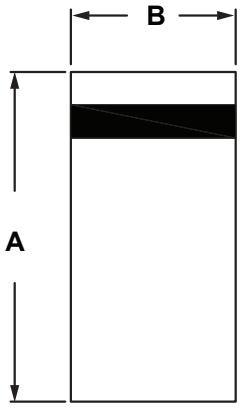


PACKAGE INFORMATION

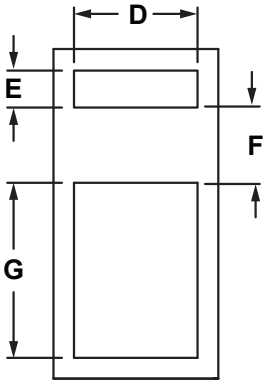
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	0.72	0.88	0.028	0.035
C	0.47	0.56	0.018	0.022
D	0.55	0.65	0.022	0.026
E	0.15	0.22	0.006	0.009
F	0.33	0.40	0.013	0.016
G	0.81	0.89	0.032	0.035

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

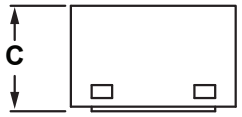
TOP VIEW



BOTTOM VIEW

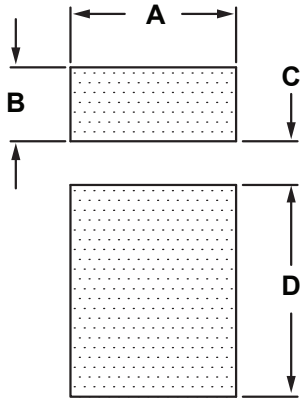


END VIEW

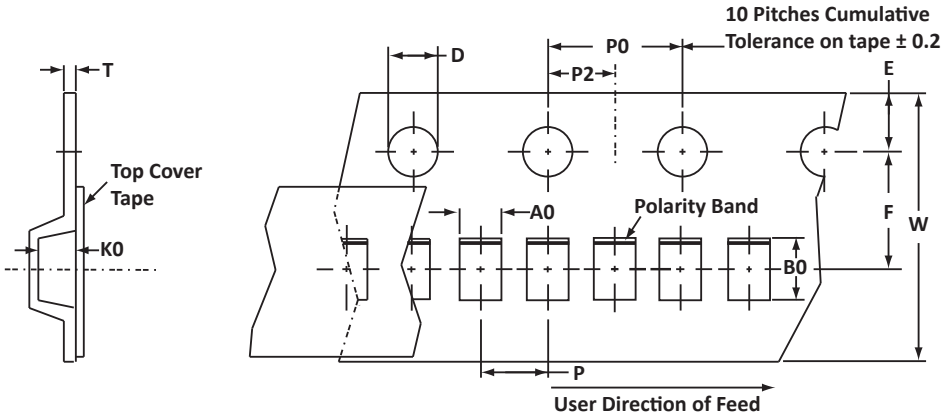


PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.80	0.032
B	0.36	0.014
C	0.21	0.008
D	1.03	0.040

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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