HIGH POWERED SURGE PROTECTION TVS ARRAY

DFN-2 PACKAGE

DESCRIPTION

The PSDxx61 Series are transient voltage suppressor arrays, designed to protect sensitive electronics from damage or latch-up due to EOS, lightning, CDE and ESD. These devices offer board level protection with its fast resonse time, low operating voltage and clamping voltage. The PSDxx61 Series protects against a wide array of applications including industrial equipment, battery protection and USB interfaces.

The PSDxx61 Series meets IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements. These devices offer low leakage current in a miniature DFN-2 package.

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): 90A (8/20µs)
- 1400 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Protects One Line
- Low Leakage Current
- High Peak Pulse Current Capability
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- Industrial Equipment
- Battery Protection
- USB Voltage Bus
- Tablet and Cellular Devices
- CCTV Cameras
- Instrumentation
- Microcontroller RESET and IRQ Pins
- ADAS

MECHANICAL CHARACTERISTICS

- Molded JEDEC 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

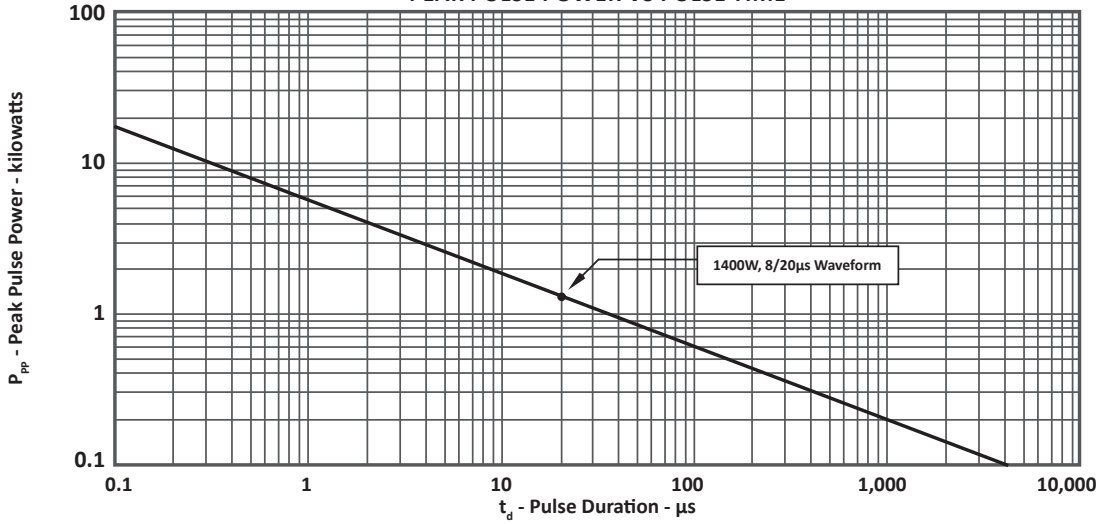
TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	1400	Watts
Peak Pulse Current (tp = 8/20µs)	I_{PP}	90	Amps
Operating Temperature	T_A	-40 to 125	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Dynamic Resistance (tp = 0.2/100ns)	R_{DYN}	0.05	Ohms
ESD Voltage Level per IEC 61000-4-2 (Air and Contact(	V_{ESD}	±30	kV
Peak Surge Voltage Level per IEC 61000-4-5, RCC = 500 Ohms	V_{PP}	1	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 @ I_{PP}	MAXIMUM LEAKAGE CURRENT (Note 1) @V_{WM} I_D nA	TYPICAL CAPACITANCE @0V, 1MHz C_J pF
PSD0561	561	5	6.0	16.0V @ 90.0A	300	800
PSD3261	32L	32	34.0	60.0V @ 25.0A	200	300

NOTE
1. Max Leakage Current for PSD3261 @ 5µA at 150°C.

FIGURE 1
PEAK PULSE POWER VS PULSE TIME



TYPICAL DEVICE CHARACTERISTICS

FIGURE 2
PULSE WAVE FORM

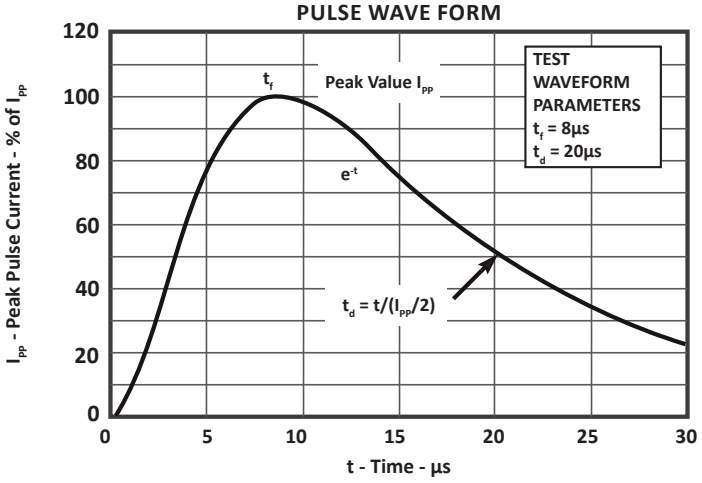


FIGURE 3
8/20µs SURGE PERFORMANCE - PSD0561

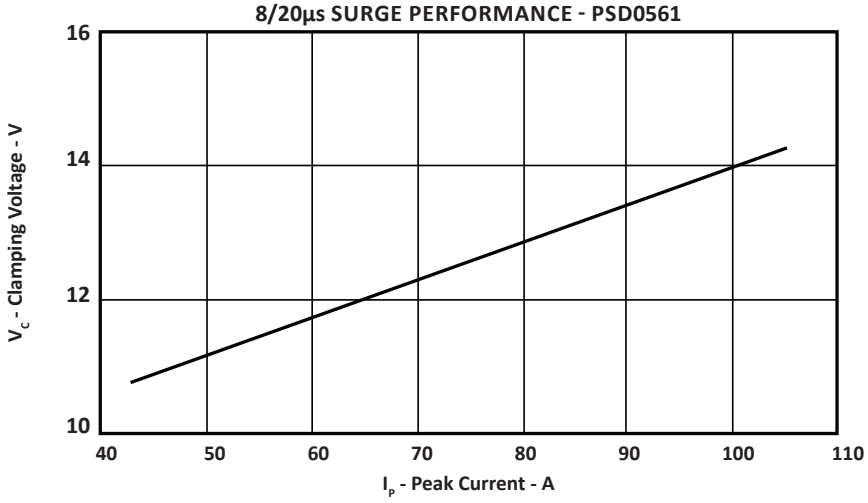
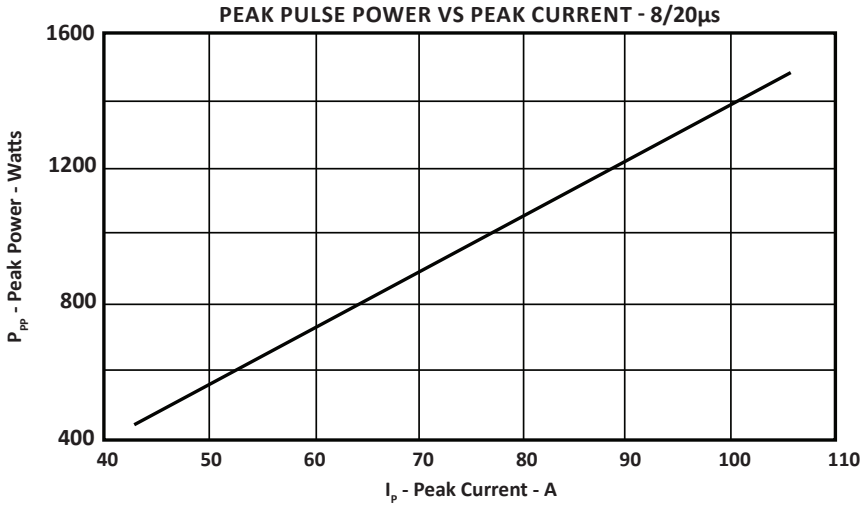
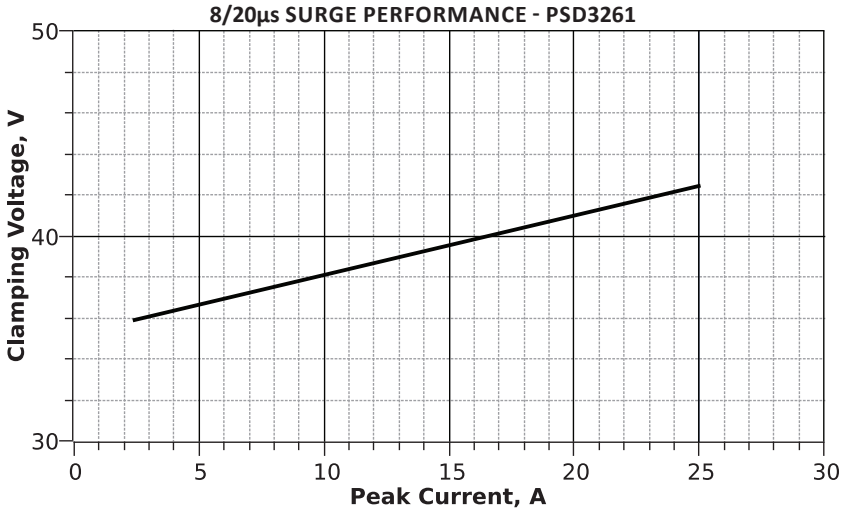


FIGURE 4
PEAK PULSE POWER VS PEAK CURRENT - 8/20µs



TYPICAL DEVICE CHARACTERISTICS

FIGURE 5
8/20µs SURGE PERFORMANCE - PSD3261

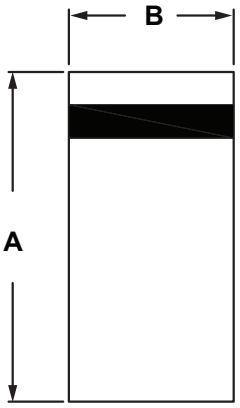


PACKAGE INFORMATION

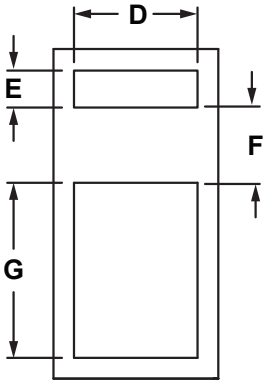
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	0.72	0.88	0.028	0.035
C	0.47	0.56	0.018	0.022
D	0.55	0.65	0.022	0.026
E	0.15	0.22	0.006	0.009
F	0.33	0.40	0.013	0.016
G	0.81	0.89	0.032	0.035

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

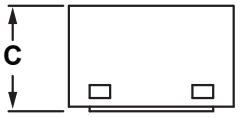
TOP VIEW



BOTTOM VIEW

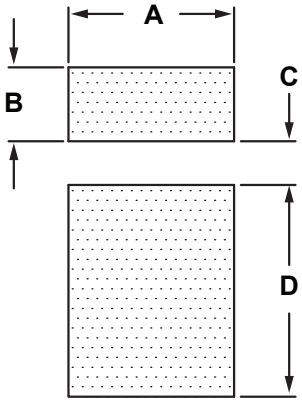


END VIEW

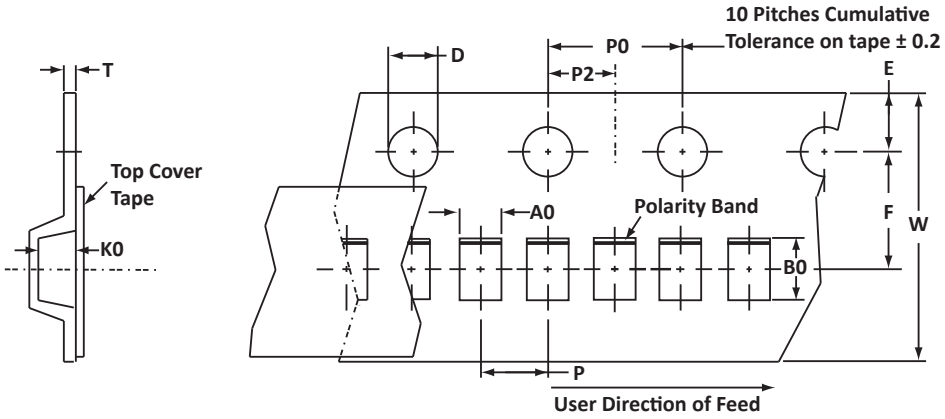


PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.80	0.032
B	0.36	0.014
C	0.21	0.008
D	1.03	0.040

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.

ORDERING INFORMATION					
BASE PART NUMBER (XXXX = VOLTAGE)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PSDxxxx	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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