

ULTRA LOW CAPACITANCE TVS ARRAY**DFN-2 PACKAGE****DESCRIPTION**

The PAM41TKDF2L0521 is an ultra low capacitance transient voltage suppressor array, designed to protect automotive applications from the damaging effects of Electrostatic Discharge and Electrical Fast Transients.

The PAM41TKDF2L0521 meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This device offers an ultra low capacitance and low leakage current in a miniature DFN-2-0402 package.

FEATURES

- AEC-Q101 Qualified
- Meets or Exceeds IEC 61000-4-2 (ESD): Air $\pm 30\text{kV}$, Contact $\pm 20\text{kV}$
- Compatible with IEC 61000-4-4 (EFT)
- Compatible with IEC 61000-4-5 (Surge)
- 100 Watts Peak Pulse Power per Line ($t_p = 8/20\mu\text{s}$)
- ESD Protection
- Low Clamping Voltage
- Protects One Bidirectional Line
- Ultra Low Capacitance: 0.25 pF (Typical)
- RoHS Compliant
- Halogen- Free

APPLICATIONS

- Wireless Communications
- USB 1.0, USB 2.0 & USB 3.0
- HDMI 1.4 & 2.0 Interfaces

MECHANICAL CHARACTERISTICS

- Molded JEDEC DFN-2-0402 Package
- Approximate Weight: 1 milligram
- Lead-Free Plating
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-265°C
- 8mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

PIN CONFIGURATION

TYPICAL DEVICE CHARACTERISTICS

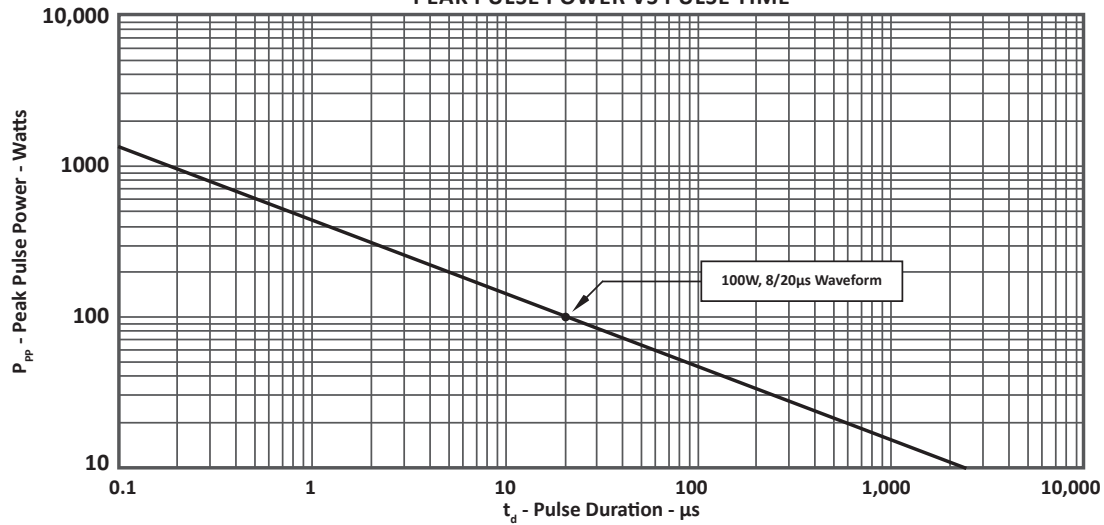
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P _{PP}	100	Watts
Operating Temperature	T _A	-55 to 125	°C
Storage Temperature	T _{STG}	-55 to 150	°C
IEC 61000-4-2 ESD Level 4 Rating - Contact	-	20	kV
IEC 61000-4-2 ESD Level 4 Rating - Air	-	30.0	kV

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

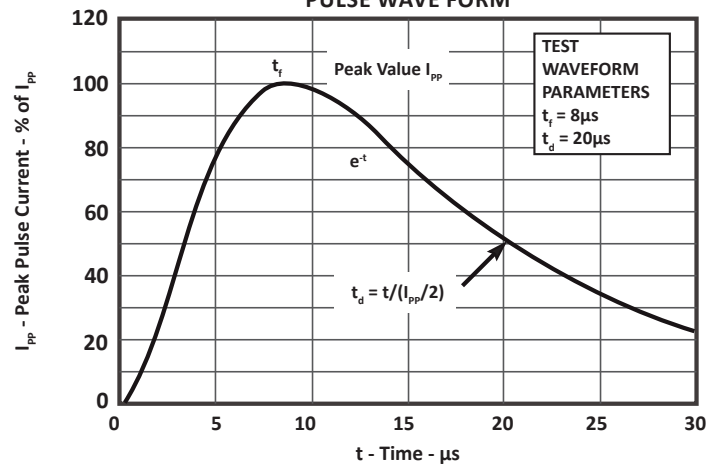
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V _{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA V _(BR) VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I _p = 1A V _C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20μs V _C @ I _{PP}	MAXIMUM LEAKAGE CURRENT @ V _{WM} I _D μA	TYPICAL CAPACITANCE @ 0V, 1MHz C _J pF
PAM41TKDF2L0521	5BUJ	5.5	6.0	13.0	25.0V @ 4.0A	0.1	0.25

FIGURE 1
PEAK PULSE POWER VS PULSE TIME



TYPICAL DEVICE CHARACTERISTICS

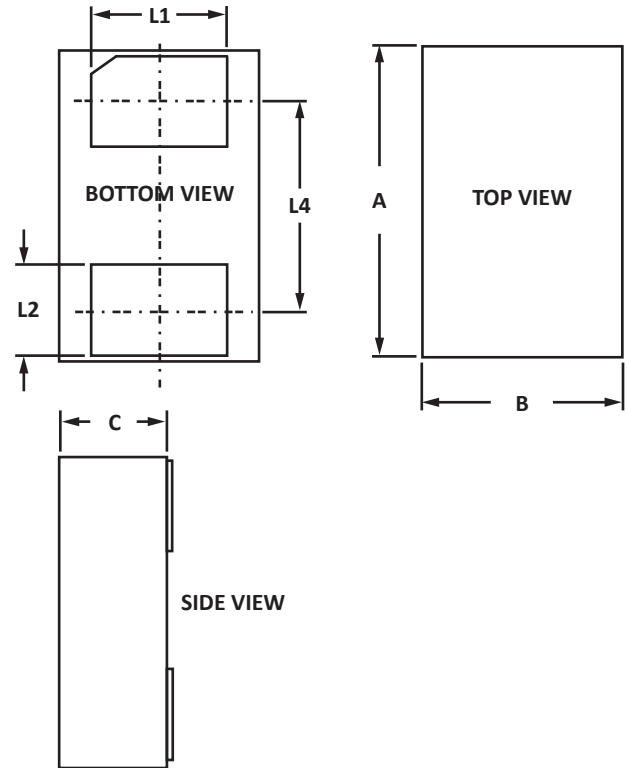
FIGURE 2
PULSE WAVE FORM



PACKAGE INFORMATION

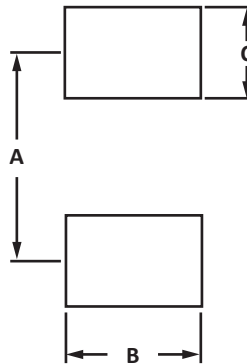
OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.05	0.035	0.041
B	0.51	0.65	0.020	0.026
C	0.44	0.55	0.017	0.022
L1	0.44	0.55	0.017	0.022
L2	0.18	0.30	0.007	0.012
L4	0.64 BSC		0.025 BSC	
NOTES 1. Controlling dimension: inches. 2. Dimensions are exclusive of mold flash and metal burrs.				

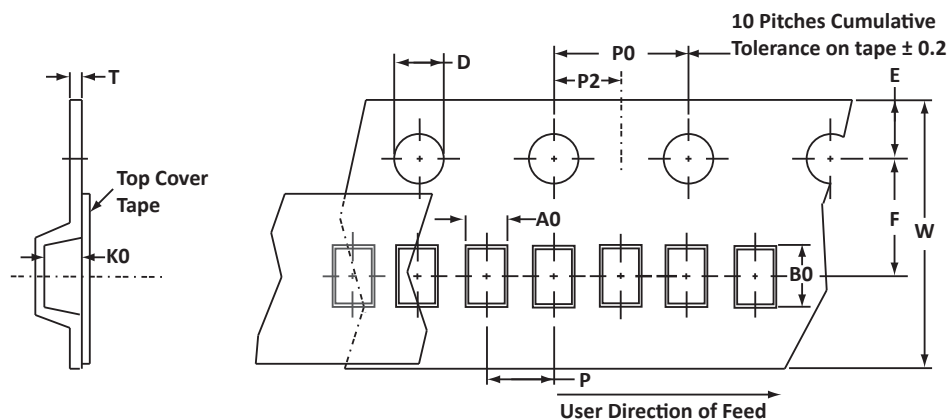


PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.85	0.95	0.033	0.037
B	0.40	0.60	0.016	0.022
C	0.40	0.60	0.016	0.022
NOTES 1. Controlling dimension: inches.				



TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	0.71 ± 0.05	1.12 ± 0.10	0.57 ± 0.05	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.10	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	0.25

NOTES

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

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM41TKDF2L0521	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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