

300 WATT MULTI-LINE TVS ARRAY

DESCRIPTION

The DFN6-36 is a multi-line transient voltage suppressor array. This device is designed to protect sensor ports, portable electronics and 36V DC applications from the damaging effects of ESD and EFT.

The DFN6-36 is available in a unidirectional configuration with a working voltage of 33V and a minimum breakdown voltage of 35V. This device is rated for 300 Watt peak pulse power using the 8/20 μ s waveform, which is sufficient protection for tertiary type lightning threats at key interface locations.

The DFN6-36 is also suited to protect data lines against ESD and EFT. This device meets the IEC 61000-4-2 and IEC 61000-4 requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This device in conjunction with passive components integrated into a TVS/filter network can be used for EMI/RFI protection.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 12A, 8/20 μ s - Level 1(Line-Gnd) & Level 2(Line-Line)
- 300 Watts Peak Pulse Power per Line (tp = 8/20 μ s)
- 200 Watts Peak Pulse Power per Line (tp = 1.2/50 μ s)
- ESD Protection > 25 kilovolts
- Low Clamping Voltage
- Protects up to 3 Data Lines
- RoHS Compliant
- REACH Compliant

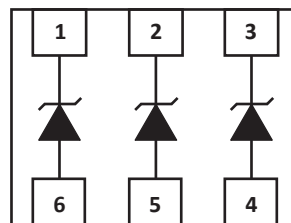
APPLICATIONS

- Digital Sensor I/O Ports
- Control & Monitoring Systems
- Portable Electronics
- 36 Volt DC Protection

MECHANICAL CHARACTERISTICS

- Molded JEDEC DFN-6 Package
- Approximate Weight: 6 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- 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



Top View

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}	300	Watts
Peak Pulse Power (tp = 1.2/50μs) - See Figure 1	P_{PP}	200	Watts
Typical Forward Voltage @ 100mA	V_F	1.3	V
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Current(tp = 8/20μs)	$I_{PP(MAX)}$	6.0	Amps

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) @ $I_p = 2A$ V_C VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	TYPICAL CAPACITANCE @0V, 1MHz C_j pF
DFN6-36	D36	33.0	35.0	45.0	5.0	50

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

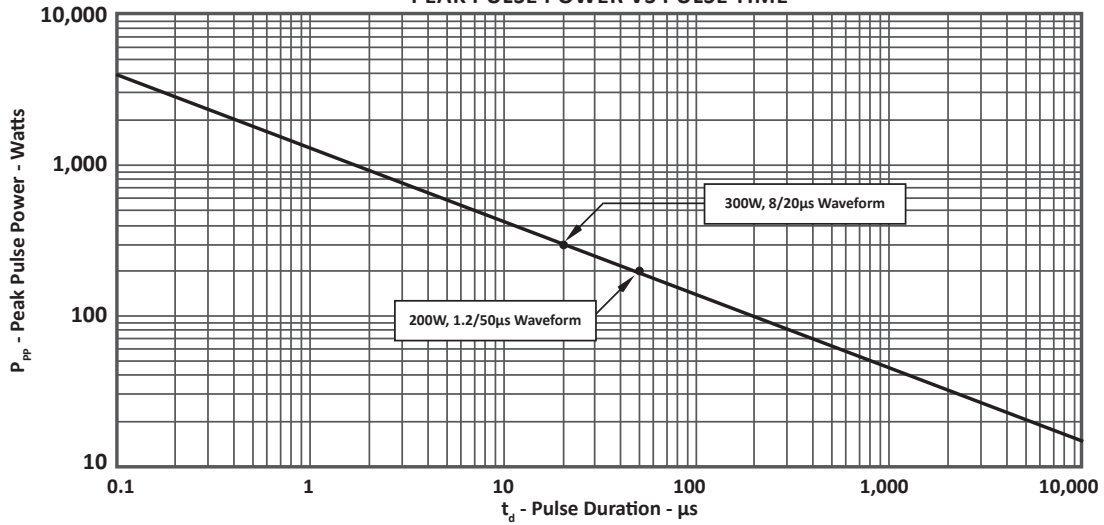
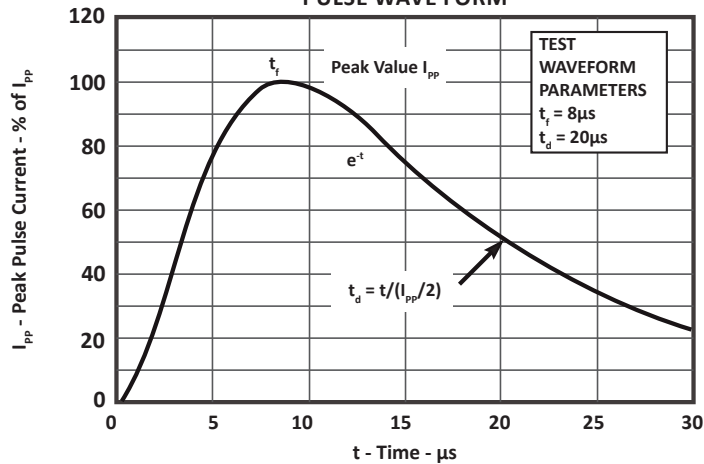


FIGURE 2
PULSE WAVE FORM

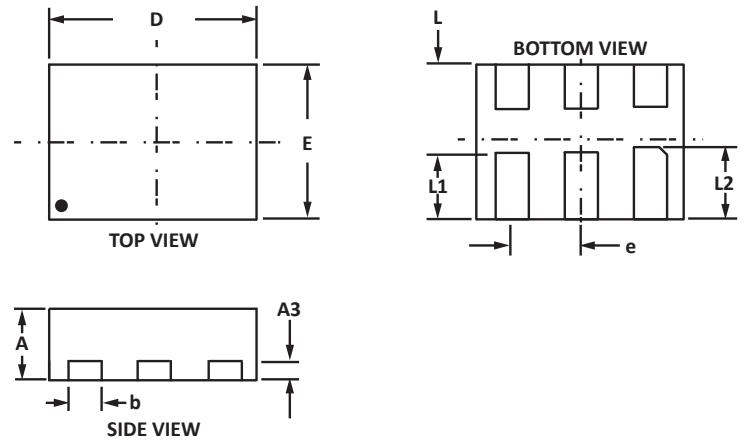


DFN-6 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.45	0.55	0.017	0.021
A3	0.13 BSC		0.005 BSC	
b	0.35	0.45	0.013	0.017
D	1.90	2.10	0.074	0.082
E	1.40	1.60	0.055	0.063
e	0.65 BSC		0.025 BSC	
L	0.45	0.55	0.017	0.021
L1	0.55	0.65	0.021	0.025
L2	0.65	0.75	0.025	0.029

NOTES

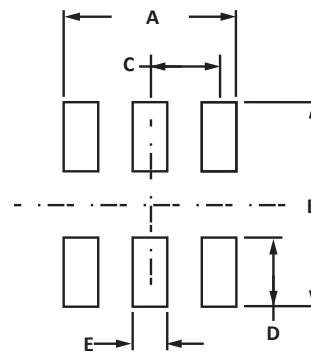
- Controlling dimension: millimeters.
- Dimensioning and tolerances per ANSI Y14.M, 1985.



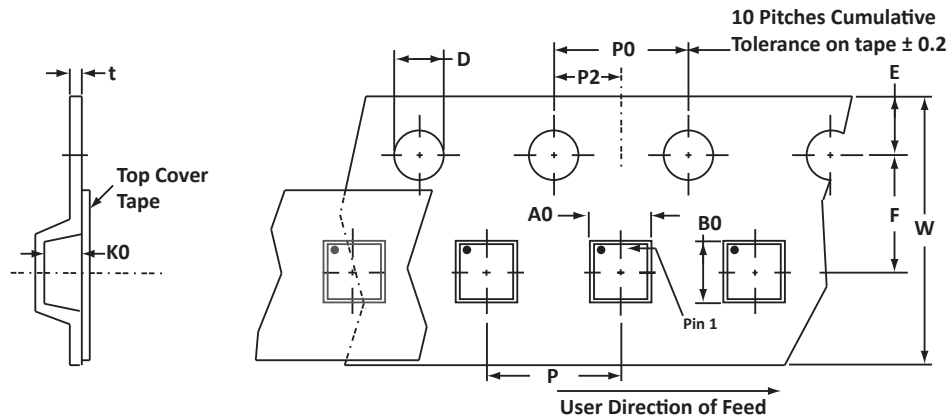
PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.21	0.083
B	0.16	0.063
C	0.65	0.026
D	0.55	0.022
E	0.45	0.018

NOTES

- 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	1.70 ± 0.10	2.20 ± 0.10	0.70 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T73 = 7" Reel - 3,000 pieces per 8mm tape.
- Marking on Part - marking code (see page 2) and polarity dot.

Package outline, pad layout and tape specifications per document number 06071.R1 3/11.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
DFN6-36	n/a	-T73	3,000	7"	n/a

COMPANY INFORMATION

COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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