

LOW CAPACITANCE TVS ARRAY



DFN-4 PACKAGE

DESCRIPTION

The ESD4-DFN is a multi-line, low capacitance, 7pF @ 2.5V bias transient voltage suppressor array. This device is designed to protect applications such as wireless telecommunication devices, PCMCIA cards and other portable electronics from the damaging effects of ESD and EFT.

The ESD4-DFN has a working voltage of 5.0V and a minimum breakdown voltage of 6.0V. The ESD4-DFN is ideally suited to protect 5V DC lines and data I/O ports against ESD and EFT and 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. Packaged in the DFN-4 plastic case, the ESD4-DFN should be placed near the connector to provide maximum protection.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- 25 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ESD Protection > 25 kilovolts
- Protects up to 4 Data Lines
- RoHS Compliant
- REACH Compliant

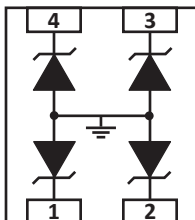
APPLICATIONS

- SMART Phones
- LCD Display Panel
- Portable Electronics
- SMART Cards

MECHANICAL CHARACTERISTICS

- Molded JEDEC DFN-4 Package
- Approximate Weight: 2 milligrams
- Lead-Free Nickel Paladium Gold
- Solder Reflow Temperature:
 Nickel-Paladium-Gold: Ni/Pd/Au, 96/3.5/0.5: 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
Operating Temperature	T_A	-40 to 85	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Soldering Temperature for 10 seconds	T_L	265	°C
Typical Forward Voltage @ 10mA	V_F	1.2	V
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	25	Watts

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 REVERSE LEAKAGE CURRENT @ 3V I_D μA	TYPICAL CAPACITANCE (Note 1) @ 2.5V, 1MHz C pF
ESD4-DFN	4	5.0	6.0	12.0	0.1	7

NOTES

1. 10pF @ 0V, 1MHz Typical.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

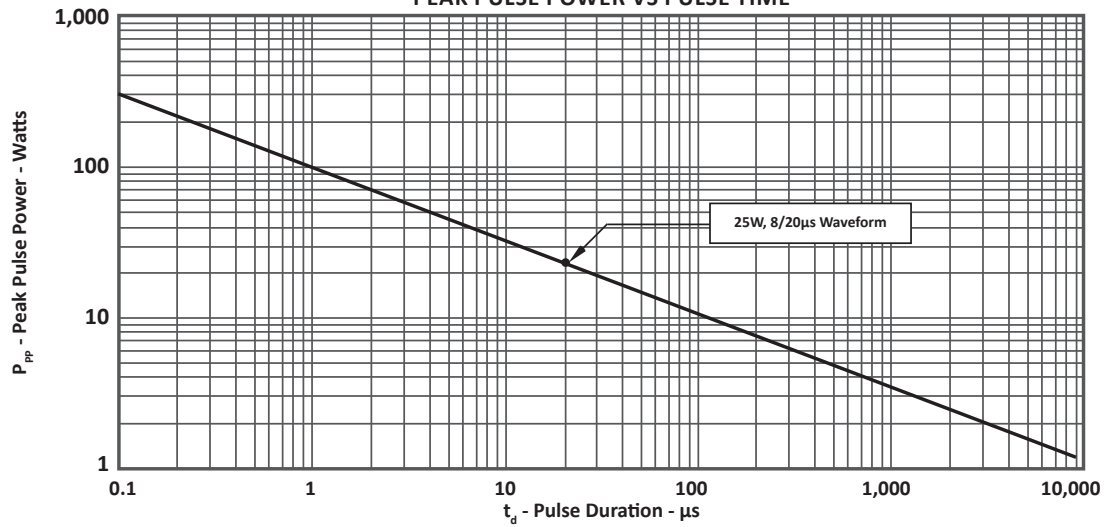
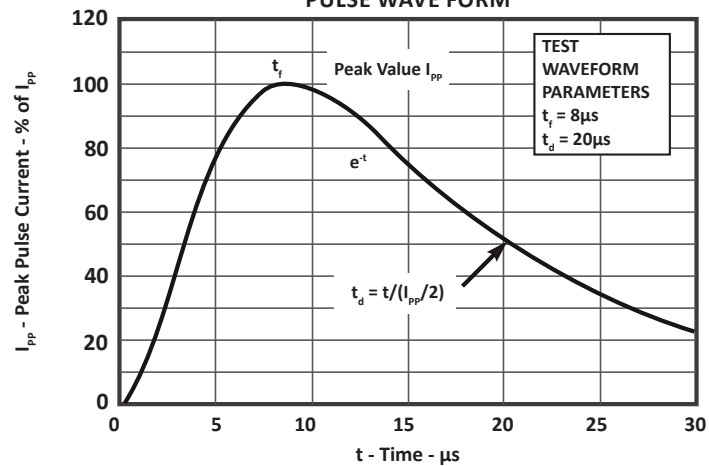


FIGURE 2
PULSE WAVE FORM



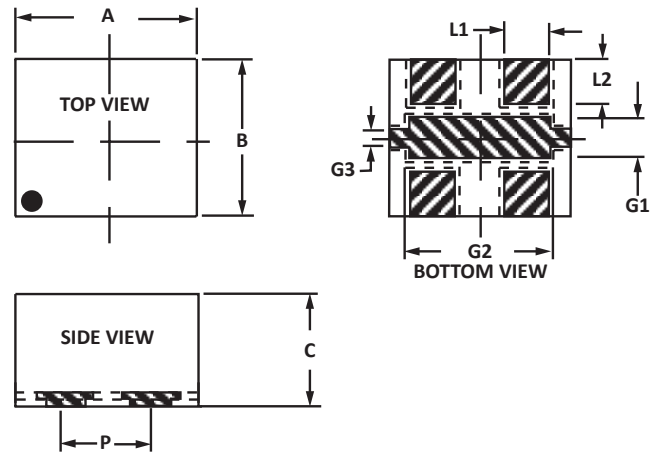
DFN-4 PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.95	1.05	0.038	0.042
B	0.95	1.05	0.038	0.042
C	0.45	0.55	0.018	0.022
L1	0.20	0.30	0.008	0.012
L2	0.20	0.30	0.008	0.012
G1	0.25	0.35	0.010	0.014
G2	0.60	0.70	0.023	0.028
G3	0.05	0.15	0.002	0.006
P	0.45	0.55	0.018	0.022

NOTES

1. Controlling dimension: millimeters.
2. Dimensioning and tolerances per ANSI Y14.M, 1985.
3. Dimension "B" applies to terminal and is measured between 0.25 and 0.30mm from terminal.
4. Coplanarity applies to the exposed pad as well as the terminals.
5. Dimension "P" is BSC.

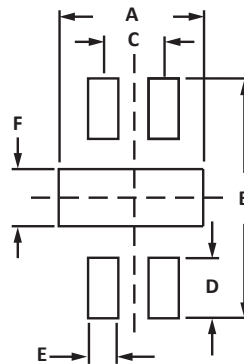


PAD LAYOUT DIMENSIONS

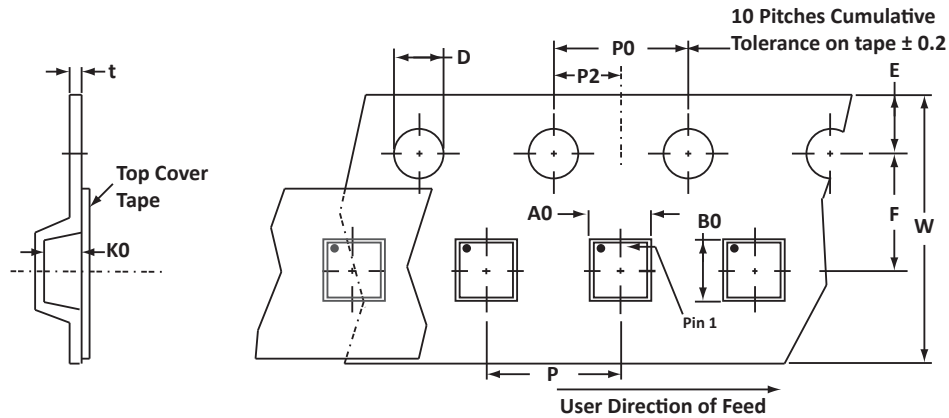
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.60	0.024
B	1.30	0.051
C	0.50 BSC	0.020 BSC
D	0.40	0.016
E	0.30	0.012
F	0.20	0.008

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	1.17 ± 0.10	1.17 ± 0.10	0.66 ± 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

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

Package outline, pad layout and tape specifications per document number 06073.R1 3/11.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
ESD4-DFN	-LF	-T73	3,000	7"	n/a

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

COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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