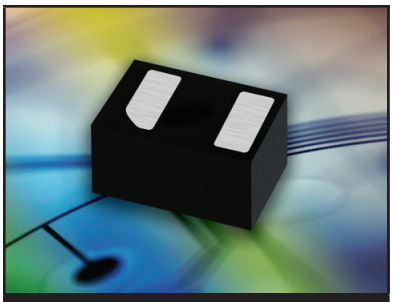
LOW CAPACITANCE MINIATURE TVS ARRAY



DFN-2 PACKAGE

DESCRIPTION

The P0201D05C is a transient voltage suppressor array (TVS) designed to protect applications such as wireless telecommunication devices and portable electronics. The P0201D05C is available in a bidirectional configuration with a working voltage of 4.7V and a minimum breakdown voltage of 5.7V. This device is rated for 10 Watt peak pulse power using the 8/20µs waveform, which is sufficient protection for tertiary type lightning threats at key interface locations.

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

- 10 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Industry First 0201 Package for TVS Protection
- Bidirectional Configuration
- Provides 1 Line of Protection
- Low Clamping Voltage
- Easy Placement for Manufacturing
- Low Capacitance
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- Noise Suppression for Data Lines
- SMART Phones
- Portable Electronics

MECHANICAL CHARACTERISTICS

- Molded JEDEC DFN-2-0201 Package
- Approximate Weight: 0.8 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

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Junction Temperature	T_A	150	°C
Peak Pulse Power (tp = 8/20µs)	P_{PP}	10	Watts
Power Dissipation	P	30	mW

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.1) @ I_P = 1A V_C VOLTS	MAXIMUM PEAK PULSE CURRENT (Fig. 1) @ 8/20µs I_{PP} AMPS	MAXIMUM LEAKAGE CURRENT @ 3.5V I_D µA	TYPICAL CAPACITANCE @0V, 1MHz C pF
P0201D05C	X	4.7	5.7	16.0	1	1.0	5

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PULSE WAVE FORM

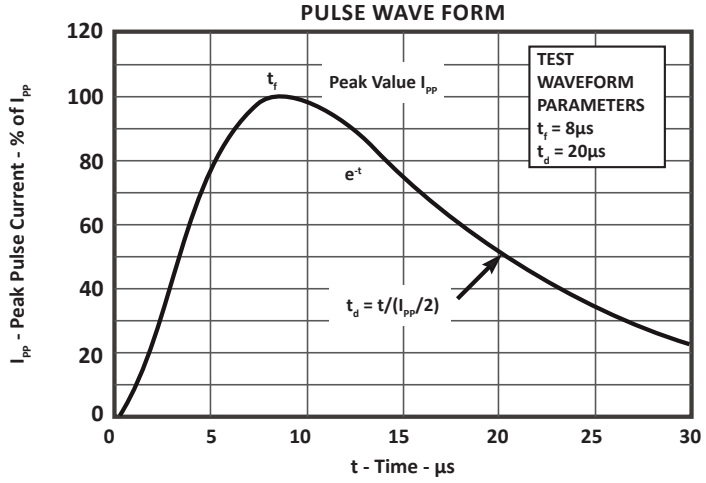
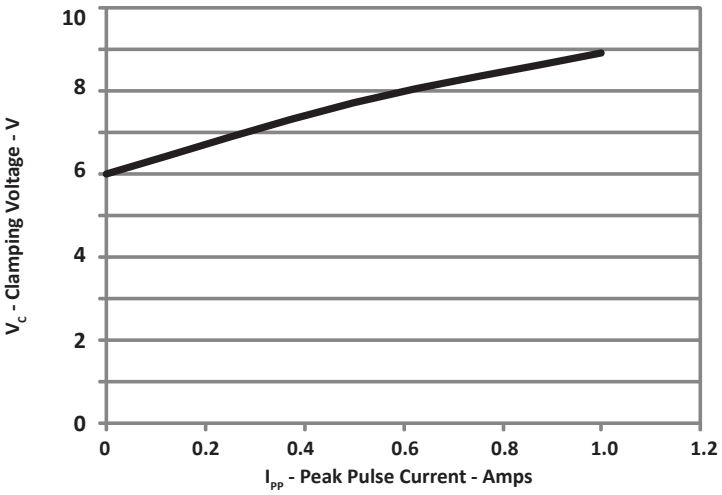


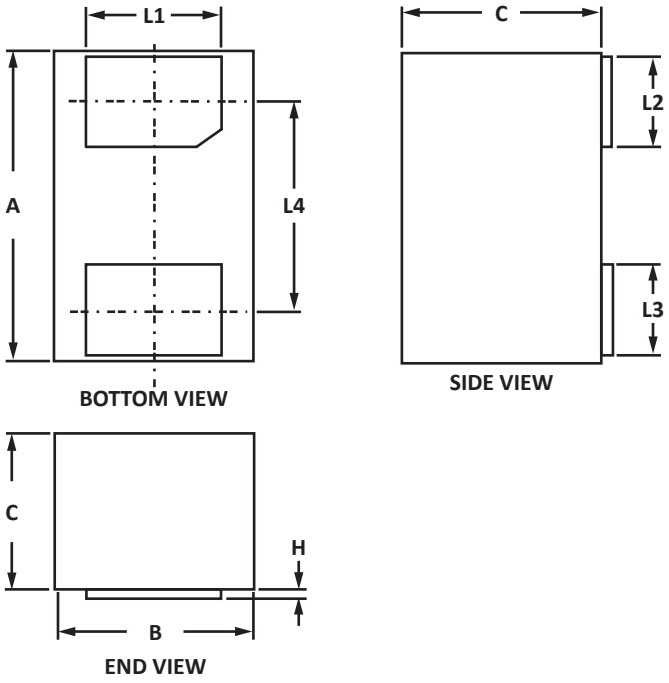
FIGURE 2
TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT



DFN-2-0201 PACKAGE INFORMATION

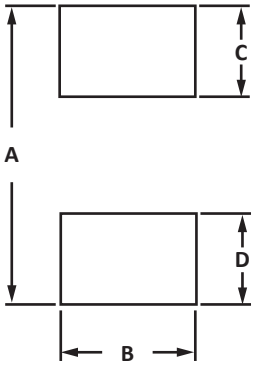
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.60 BSC		0.024 BSC	
B	0.30 BSC		0.012 BSC	
C	0.27	0.34	0.011	0.013
H	0~0.05		0~0.002	
L1	0.20	0.30	0.008	0.012
L2	0.13	0.23	0.005	0.007
L3	0.14	0.24	0.006	0.009
L4	0.35 BSC		0.014 BSC	

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

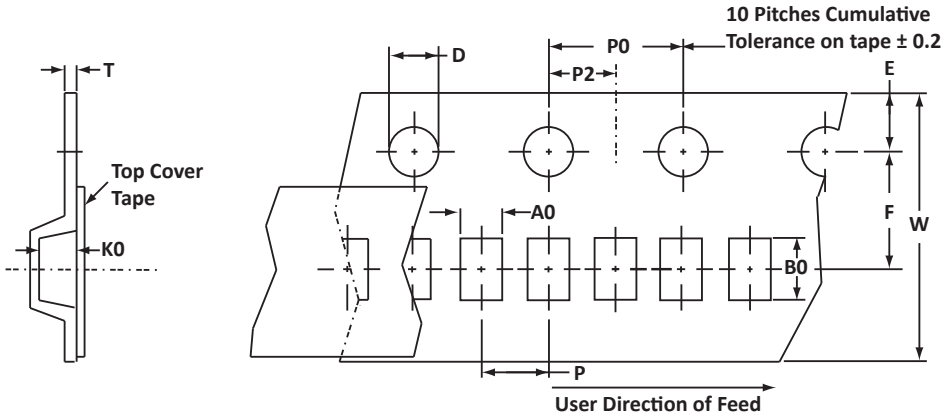


PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.62	0.66	0.024	0.026
B	0.32	0.38	0.013	0.015
C	0.25	0.30	0.010	0.012
D	0.25	0.30	0.010	0.012

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	0.37 ± 0.03	0.67 ± 0.03	0.35 ± 0.03	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	2.00 ± 0.05	1.00 ± 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. Suffix - T710 = 7" Reel - 10,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2).

Package outline, pad layout and tape specifications per document number 06095.R0 3/11.

ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PD0201D05C	n/a	-T710	10,000	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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