## LOW CAPACITANCE MINIATURE TVS ARRAY



### DESCRIPTION

The P0201D05C is a transient voltage suppressor array (TVS) designed to protect applications such as wireless tele-communication 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

### **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

### **APPLICATIONS**

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

## **PIN CONFIGURATION**



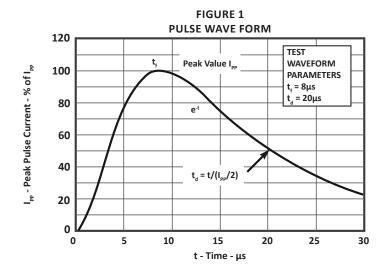
# TYPICAL DEVICE CHARACTERISTICS

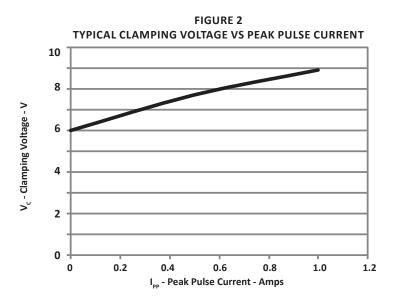
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified								
PARAMETER	SYMBOL	VALUE	UNITS					
Operating Temperature	T <sub>A</sub>	-55 to 150	°C					
Storage Temperature	T <sub>stg</sub>	-55 to 150	°C					
Junction Temperature	T <sub>A</sub>	150	°C					
Peak Pulse Power (tp = 8/20μs)	P <sub>pp</sub>	10	Watts					
Power Dissipation	Р	30	mW					

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified									
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE @ 1mA	MAXIMUM CLAMPING VOLTAGE (Fig.1)  @ Ip = 1A	MAXIMUM PEAK PULSE CURRENT (Fig. 1)  @ 8/20μs	MAXIMUM LEAKAGE CURRENT @ 3.5V	TYPICAL CAPACITANCE  @0V, 1MHz		
		V <sub>wm</sub> VOLTS	V <sub>(BR)</sub> VOLTS	V <sub>c</sub> VOLTS	I <sub>pp</sub> AMPS	Ι <sub>D</sub> μ <b>A</b>	C pF		
P0201D05C	х	4.7	5.7	16.0	1	1.0	5		

05316.R3 3/11 Page 2 <u>www.protekdevices.com</u>

# **TYPICAL DEVICE CHARACTERISTICS**





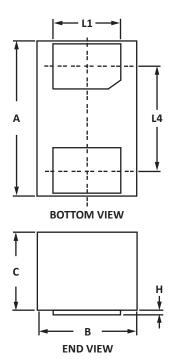


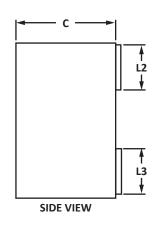
## **DFN-2-0201 PACKAGE INFORMATION**

OUTLINE DIMENSIONS								
DIM	MILLIN	IETERS	INCHES					
DIIVI	MIN	MAX	MIN	MAX				
А	0.60 BSC 0.024 BSC							
В	0.30	BSC	0.012 BSC					
С	0.27	0.34	0.011	0.013				
Н	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.



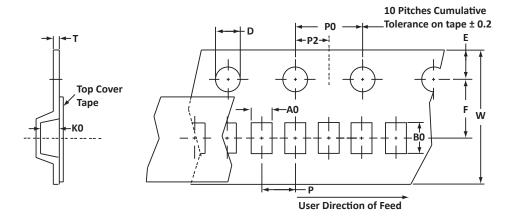


PAD LAYOUT DIMENSIONS									
DIM	MILLIN	METERS	INCHES						
DIIVI	MIN	MAX	MIN	MAX					
А	0.62	0.66	0.024	0.026					
В	0.32	0.38	0.013	0.015					
С	0.25	0.30	0.010	0.012					
D	0.25	0.30	0.010	0.012					

	PAD LAYOUT DIMENSIONS						
DIM	MILLIMETERS		INCHES				
DIIVI	MIN	MAX	MIN	MAX			
Α	0.62	0.66	0.024	0.026			
В	0.32	0.38	0.013	0.015			
С	0.25	0.30	0.010	0.012			
D	0.25	0.30	0.010	0.012			
NOTES	rolling dimensior	n: inches					

				↑ C ↓
Α				
	_			· <del>···</del>
				ļ †
<u> </u>	Ļ			
	_	В	<b>-</b>	

## **TAPE AND REEL**



SPECIFICATIONS												
REEL DIA.	TAPE WIDTH	A0	В0	ко	D	E	F	W	P0	P2	Р	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	UMBER 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.

### **CONTACT US**

### **Corporate Headquarters**

2929 South Fair Lane Tempe, Arizona 85282 USA

### By Telephone

General: 602-431-8101 Sales: 602-414-5109

Customer Service: 602-414-5114

### By Fax

General: 602-431-2288

### By E-mail:

Sales: sales@protekdevices.com

Customer Service: <a href="mailto:service@protekdevices.com">service@protekdevices.com</a>
Technical Support: <a href="mailto:support@protekdevices.com">support@protekdevices.com</a>

#### Web

www.protekdevices.com www.protekanalog.com

COPYRIGHT © ProTek Devices 2009 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. ProTek assumes no responsibility with respect to the selection or specifications of such products. ProTek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ProTek assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: ProTek Devices products are not authorized for use in life support systems without written consent from the factory.