

LOW CAPACITANCE MINIATURE TVS ARRAY

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 8/20 μ s 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

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- 10 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- 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	R	4.7	5.7	16.0	1	0.1	5

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PULSE WAVE FORM

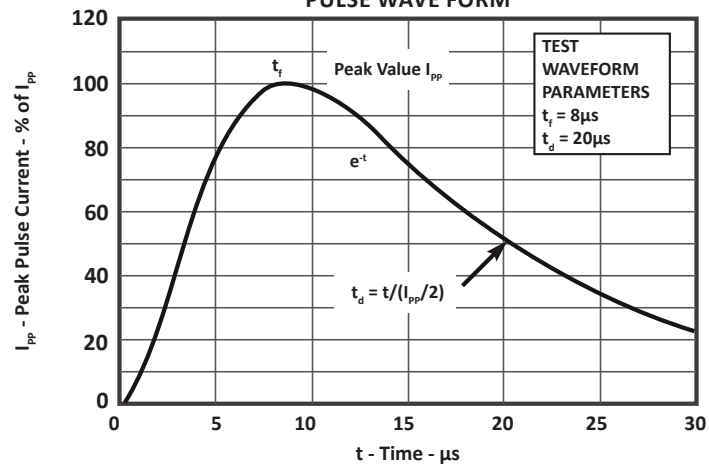
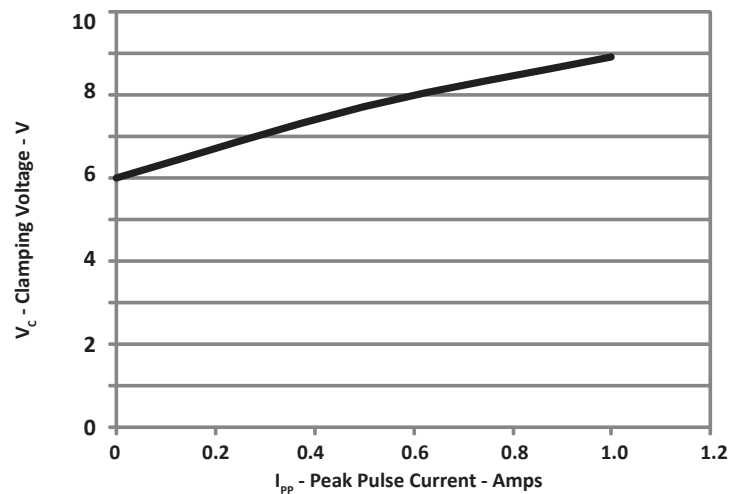


FIGURE 2
TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT



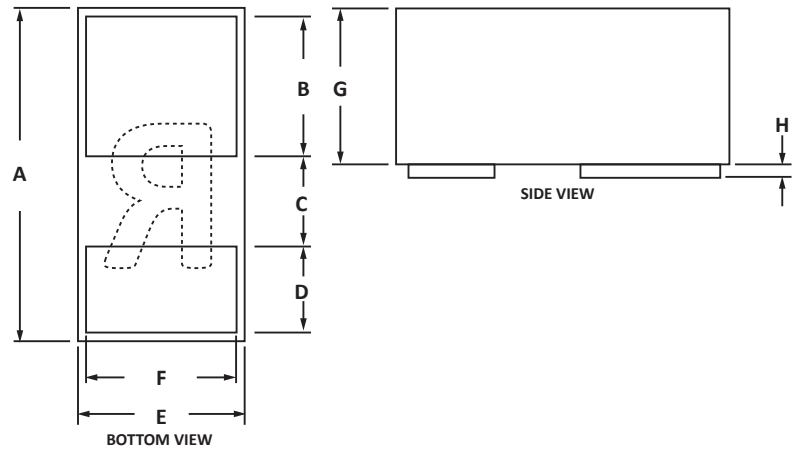
DFN-2-0201 PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.597	0.647	0.024	0.026
B	0.244	0.294	0.009	0.011
C	0.127	0.177	0.005	0.007
D	0.135	0.185	0.005	0.007
E	0.285	0.335	0.011	0.013
F	0.244	0.294	0.009	0.011
G	0.267	0.317	0.010	0.012
H	0.00	0.025	0.000	0.001

NOTES

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

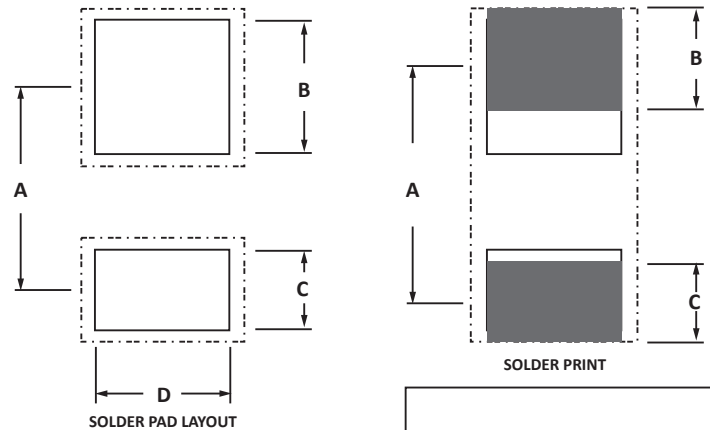


SOLDER PAD DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.331	0.381	0.013	0.015
B	0.229	0.279	0.009	0.011
C	0.127	0.177	0.005	0.007
D	0.225	0.275	0.009	0.011

NOTES

1. Controlling dimension: inches.

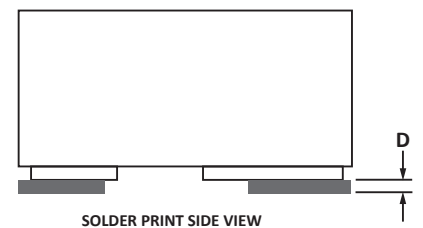


SOLDER PRINT DIMENSIONS

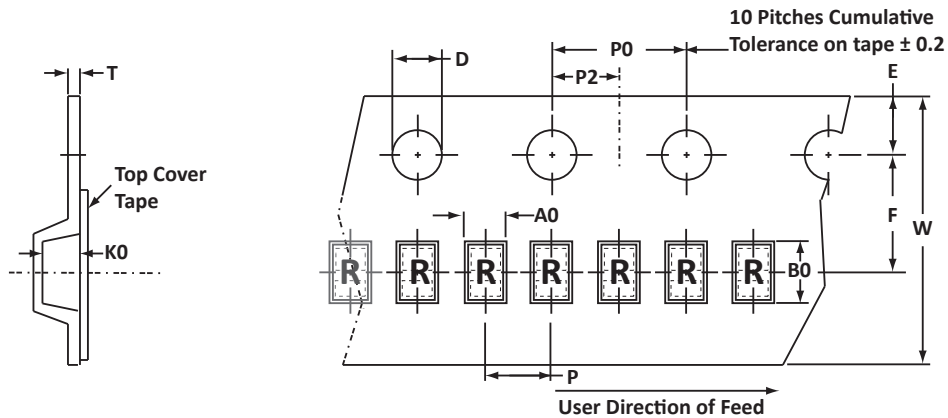
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.439	0.482	0.017	0.019
B	0.163	0.213	0.006	0.008
C	0.125	0.175	0.005	0.007
D	0.025	0.075	0.001	0.003

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

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T710 = 7" Reel - 10,000 pieces per 8mm tape.
- Marking on Part - marking code (see page 2).

Package outline, pad layout and tape specifications per document number 06095.R1 3/12.

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PD0201D05C	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 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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