

Product Summary

V_{BR} (MIN)	P_{PP} (MAX)	I_R (MAX)
13.3V to 28.9V	4000W	200nA

Description

This new generation TVS is designed to protect sensitive electronics from the damage due to ESD. The combination of small size and high ESD surge capability makes it ideal for use in portable applications such as cellular phones, digital cameras, and MP3 players.

Applications

- Cellular Handsets
- Portable Electronics
- Computers and Peripheral

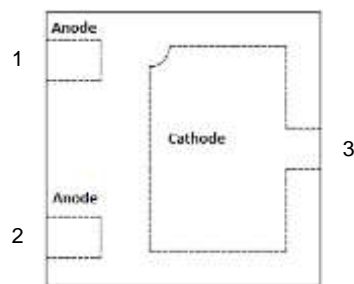
Features

- Provides ESD Protection per IEC 61000-4-2 Standard: Air ± 30 kV, Contact ± 30 kV
- One Channel of ESD Protection
- Low Channel Input Capacitance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: U-DFN2020-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.004 grams (Approximate)

U-DFN2020-3 (Type C)



Top View



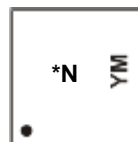
1 and 2 must be electrically connected at the PCB

Ordering Information (Note 4)

Part Number	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
D12V0S1U3LP20-7	Standard	12N	7	8	3,000/Tape & Reel
D15V0S1U3LP20-7	Standard	2N	7	8	3,000/Tape & Reel
D18V0S1U3LP20-7	Standard	3N	7	8	3,000/Tape & Reel
D20V0S1U3LP20-7	Standard	4N	7	8	3,000/Tape & Reel
D22V0S1U3LP20-7	Standard	5N	7	8	3,000/Tape & Reel
D24V0S1U3LP20-7	Standard	7N	7	8	3,000/Tape & Reel
D26V0S1U3LP20-7	Standard	6N	7	8	3,000/Tape & Reel

- Notes:
- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 - See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



*N = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: G = 2019)
 M = Month (ex: 9 = September)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	4000	W	8/20μs (Note 6)
Peak Pulse Power Dissipation	P _{PP}	320	W	10/1000μs (Note 6)
ESD Protection – Contact Discharge	V _{ESD_CONTACT}	±30	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V _{ESD_AIR}	±30	kV	Standard IEC 61000-4-2

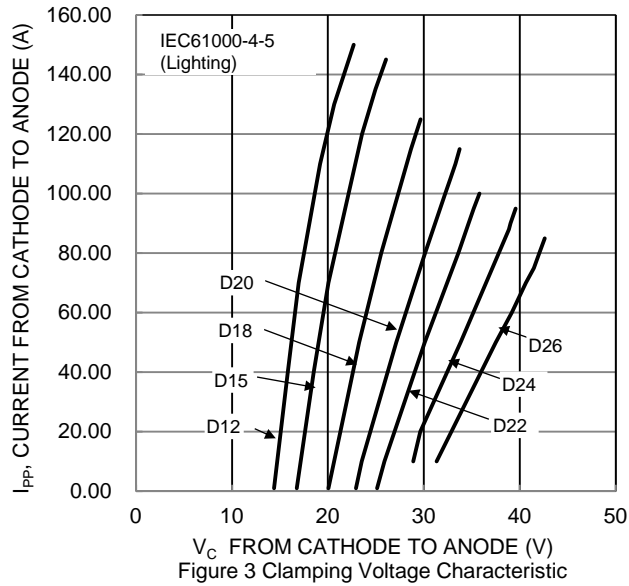
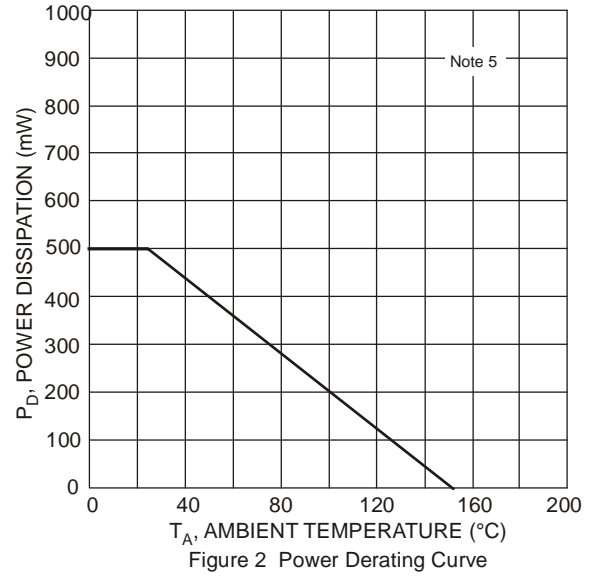
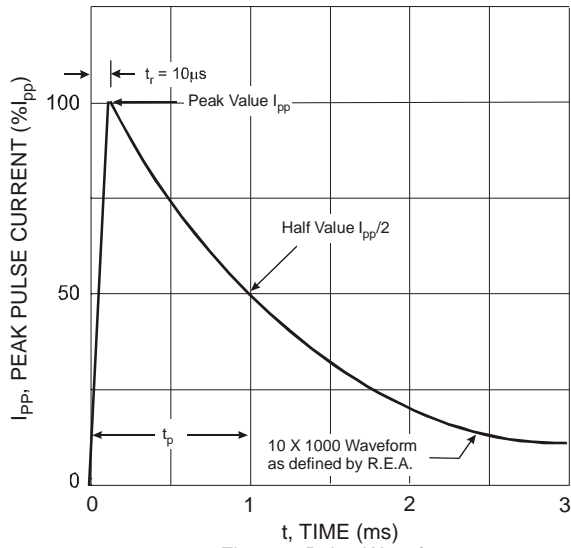
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	500	mW
Thermal Resistance, Junction to Ambient T _A = +25°C	R _{θJA}	250	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Part Number	Reverse Standoff Voltage V _{RWM} (V)	Breakdown Voltage V _{BR} (V) I _R =1mA			Reverse Leakage Current I _{RM} (nA) at V _{RWM}	Rated Peak Pulse Current I _{PPM} (A) 8/20μs	Rated Peak Pulse Current I _{PPM} (A) 10/1000μs	Clamping Voltage V _{CL} (V) at I _{PPM} 8/20μs	Clamping Voltage V _{CL} (V) at I _{PPM} 10/1000μs
	Max	Min	Typ	Max	Max	Max	Max	Max	Max
D12V0S1U3LP20-7	12	13.3	—	14.7	200	145	13.5	27.5	23.7
D15V0S1U3LP20-7	15	16.7	—	18.5	200	140	13	30.5	24.6
D18V0S1U3LP20-7	18	20.0	—	22.1	200	120	11	33.3	29.1
D20V0S1U3LP20-7	20	22.2	—	24.5	200	110	10	36.4	32.0
D22V0S1U3LP20-7	22	24.4	—	26.9	200	98	9	40.8	35.6
D24V0S1U3LP20-7	24	26.7	—	29.5	200	90	8	44.4	40.0
D26V0S1U3LP20-7	26	28.9	—	31.9	200	80	7	50.0	45.7

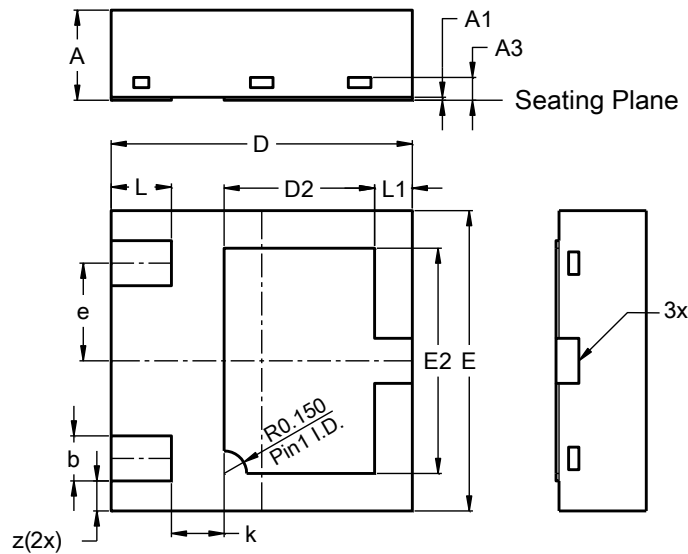
Notes: 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes Incorporated's suggested pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
6. Measured from any I/O to GND.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN2020-3 (Type C)

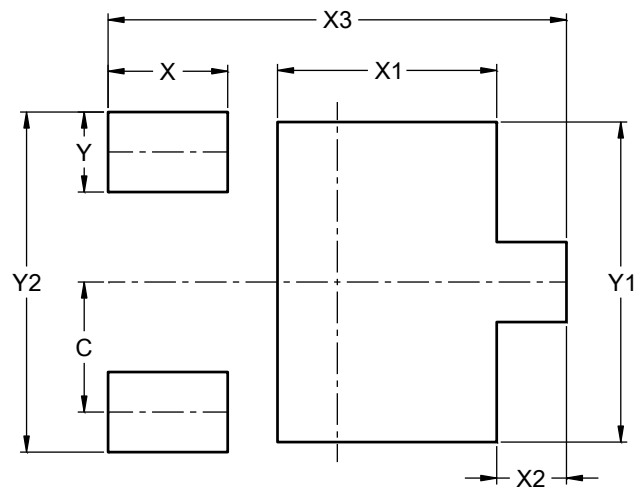


U-DFN2020-3 (Type C)			
Dim	Min	Max	Typ
A	0.55	0.65	0.60
A1	0.00	0.05	0.02
A3	--	--	0.152
b	0.25	0.35	0.30
D	1.95	2.05	2.00
D2	0.90	1.10	1.00
E	1.95	2.05	2.00
E2	1.40	1.60	1.50
e	0.65BSC		
k	--	--	0.35
L	0.35	0.45	0.40
L1	0.20	0.30	0.25
z	--	--	0.20
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

U-DFN2020-3 (Type C)



Dimensions	Value (in mm)
C	0.650
X	0.600
X1	1.100
X2	0.350
X3	2.300
Y	0.400
Y1	1.600
Y2	1.700

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2019, Diodes Incorporated

www.diodes.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.