

## Product Summary

V <sub>BR</sub> (Min)	I <sub>PP</sub> (Max)	I <sub>R</sub> (Max)
28V	110A	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

- Low Profile Package (0.605mm Max) and Ultra-small PCB Footprint Area (2.05mm \* 2.05mm Max) Suitable for Compact Portable Electronics
- Provides ESD Protection per IEC 61000-4-2 Standard: Air ±30kV, Contact ±30kV
- 1 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-DFN2020-2
- 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 <sup>(e4)</sup>
- Weight: 0.0065 grams (Approximate)



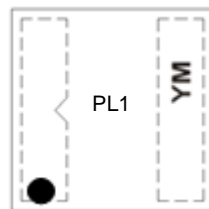
Device Schematic

## Ordering Information (Note 4)

Part Number	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
D26V0S1U2LP20-7	Standard	PL1	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



PL1 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: G = 2019)  
 M = Month (ex: 9 = September)  
 Dot = Cathode

### Date Code Key

Year	2018	2019	2020	2021	2022	2023	2024
Code	F	G	H	I	J	K	L

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P <sub>PP</sub>	4800	W	8/20μs
Peak Pulse Current	I <sub>PP</sub>	110	A	8/20μs
ESD Protection – Contact Discharge	V <sub>ESD_CONTACT</sub>	±30	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	V <sub>ESD_AIR</sub>	±30	kV	IEC 61000-4-2 Standard

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P <sub>D</sub>	500	mW
Thermal Resistance, Junction to Ambient (Note 5)	R <sub>θJA</sub>	250	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V <sub>RWM</sub>	—	—	26	V	—
Channel Leakage Current (Note 6)	I <sub>RM</sub>	—	—	200	nA	V <sub>RWM</sub> = 26V
Forward Voltage	V <sub>F</sub>	0.6	0.8	1.2	V	I <sub>R</sub> = 10mA
Clamping Voltage	V <sub>CL</sub>	—	—	37	V	I <sub>PP</sub> = 50A, t <sub>P</sub> = 10/1000μS
		—	—	44	V	I <sub>PP</sub> = 110A, t <sub>P</sub> = 8/20μS
Breakdown Voltage	V <sub>BR</sub>	28	—	31.9	V	I <sub>R</sub> = 1mA
Channel Input Capacitance	C <sub>T</sub>	—	630	—	pF	V <sub>R</sub> = 0V, f = 1MHz

- 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. Short duration pulse test used to minimize self-heating effect.

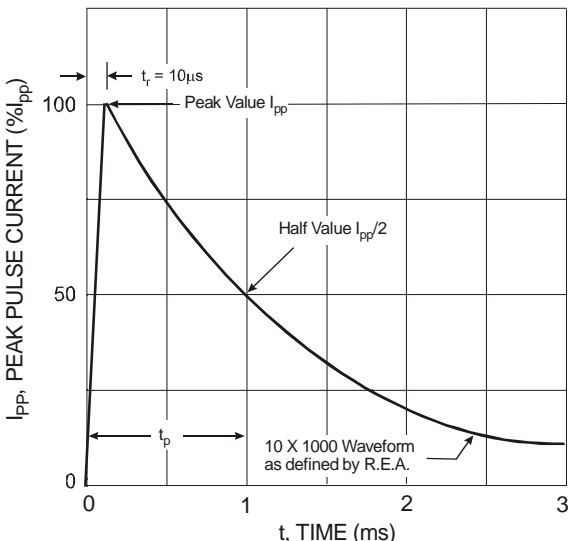


Figure 1 Pulse Waveform

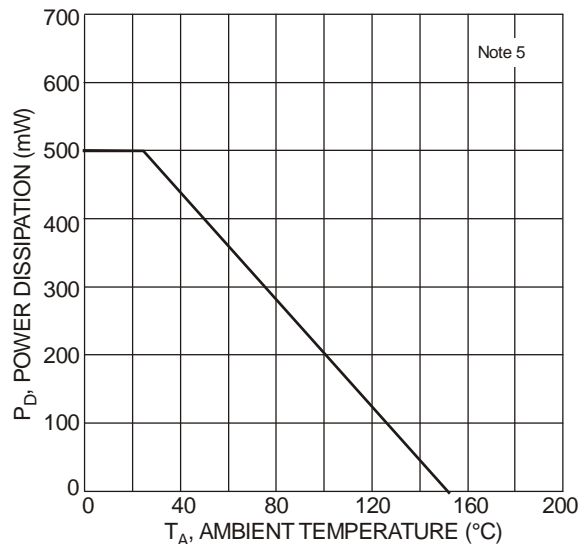


Figure 2 Power Derating Curve

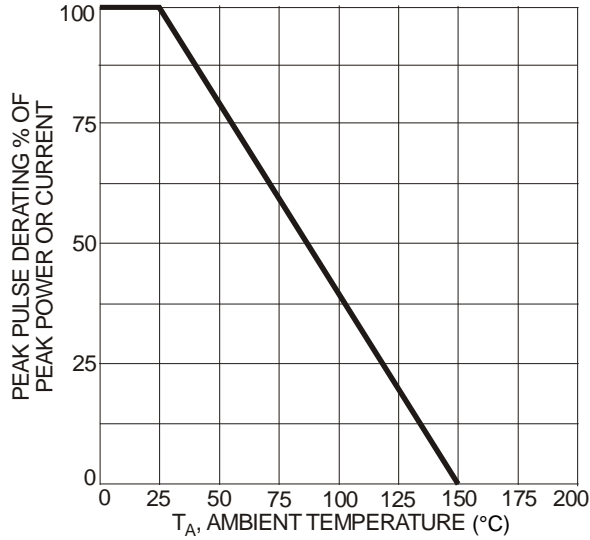


Figure 3 Power Dissipation vs. Ambient Temperature

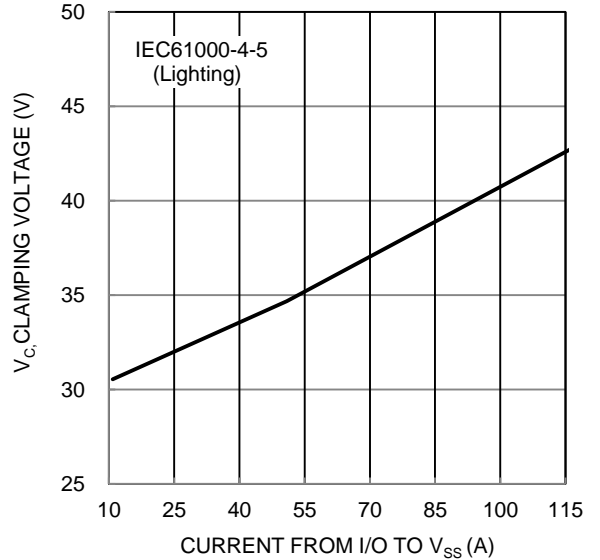
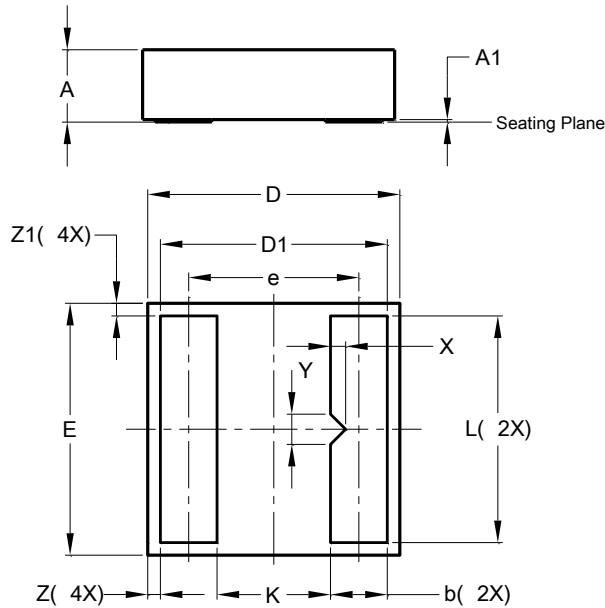


Figure 4 Clamping Voltage Characteristic

## Package Outline Dimensions

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

### U-DFN2020-2



U-DFN2020-2			
Dim	Min	Max	Typ
A	0.545	0.605	0.575
A1	0	0.05	0.02
b	0.35	0.55	0.45
D	1.90	2.10	2.00
D1	1.70	1.90	1.80
E	1.90	2.10	2.00
e	1.35 BSC		
K	0.80	1.00	0.90
L	1.70	1.90	1.80
X	-	-	0.120
Y	-	-	0.240
Z	0.10 BSC		
Z1	0.10 BSC		
All Dimensions in mm			