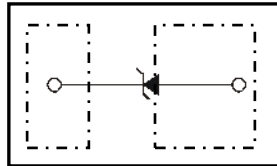


## Features

- Provides ESD Protection per IEC 61000-4-2 Standard:  
Air ±30kV, Contact ±30kV
- 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)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

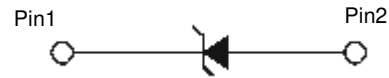
## Mechanical Data

- Package: U-DFN1608-2
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu. Solderable per MIL-STD-202, Method 208 <sup>(e4)</sup>
- Weight: 0.003 grams (Approximate)



Top view

U-DFN1608-2 (Type C)



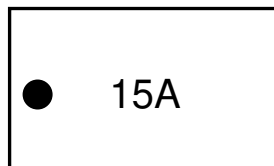
Device Schematic

## Ordering Information (Note 4)

Part Number	Compliance	Package	Marking	Reel Size (inches)	Tape Width (mm)	Packing	
						Qty.	Carrier
D15V0S1U2LP1608A-7	Commercial	U-DFN1608-2 (Type C)	15A	7	8	10,000	Tape & Reel

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

## Marking Information



15A = Product Type Marking Code  
Dot Denotes Cathode Side

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

Characteristic	Symbol	Value	Unit	Conditions
ESD Protection – Contact Discharge	V <sub>ESD_CONTACT</sub>	±30	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V <sub>ESD_AIR</sub>	±30	kV	Standard IEC 61000-4-2

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	300	mW
Thermal Resistance, Junction to Ambient T <sub>A</sub> = +25°C	R <sub>θJA</sub>	417	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

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

Part Number	Reverse Standoff Voltage	Breakdown Voltage		Test Current	Maximum Reverse Leakage Current @ V <sub>RWM</sub> (Note 6)	Maximum Clamping Voltage @ I <sub>PP</sub> (Note 7)	Maximum Peak Pulse Current	Channel Input Capacitance (Note 8) V <sub>R</sub> = 0V, f = 1MHz, Any I/O to GND	Marking Code
		V <sub>BR</sub> @ I <sub>T</sub>							
		V <sub>RWM</sub> (V)	Min (V)						
D15V0S1U2LP1608A-7	15	17	23	1	0.1	35	40	264	15A

- 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.
  7. Clamping voltage value is based on an 8x20μs peak pulse current (I<sub>PP</sub>) waveform.
  8. Measured from any I/O to GND.

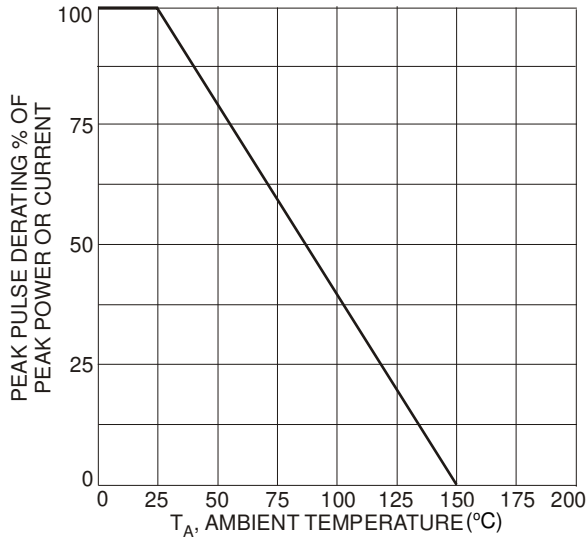


Figure 1. Pulse Derating Curve

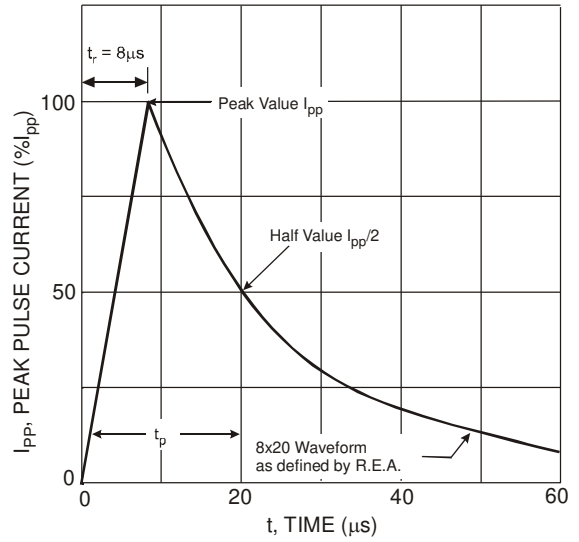


Figure 2. Pulse Waveform

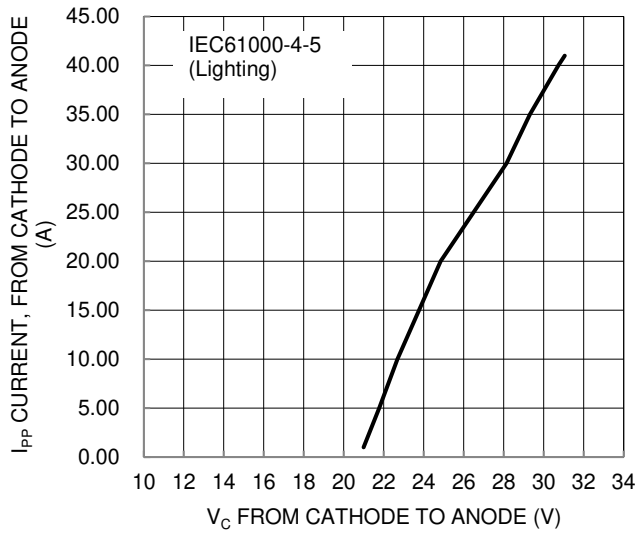


Figure 3. Clamping Voltage Characteristic

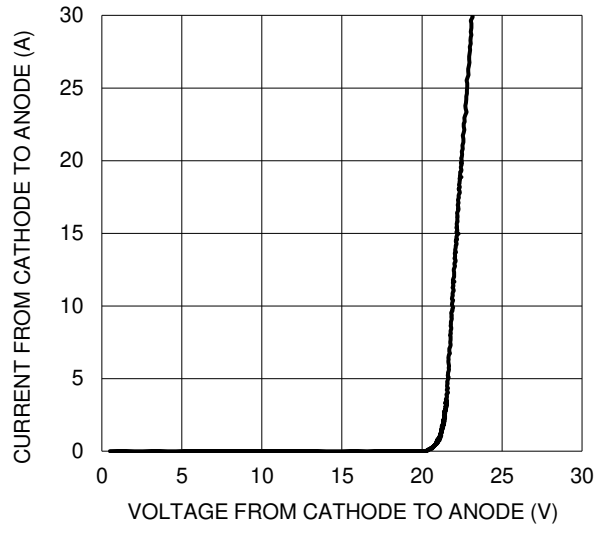


Figure 4. Current vs Voltage (TLP, t<sub>p</sub>=100ns)

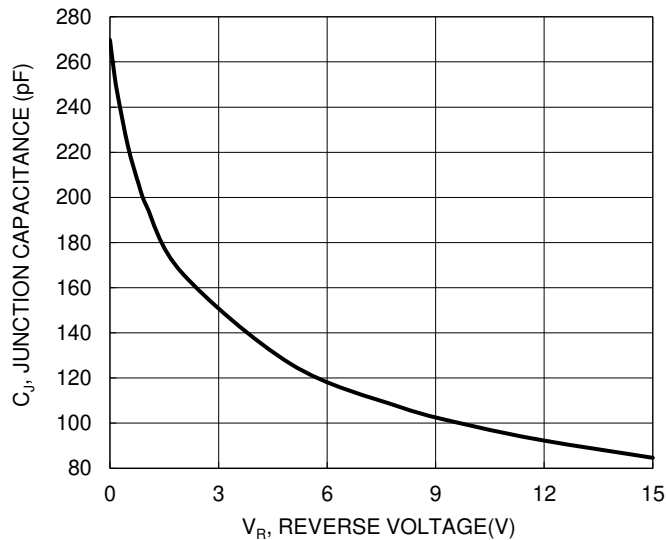
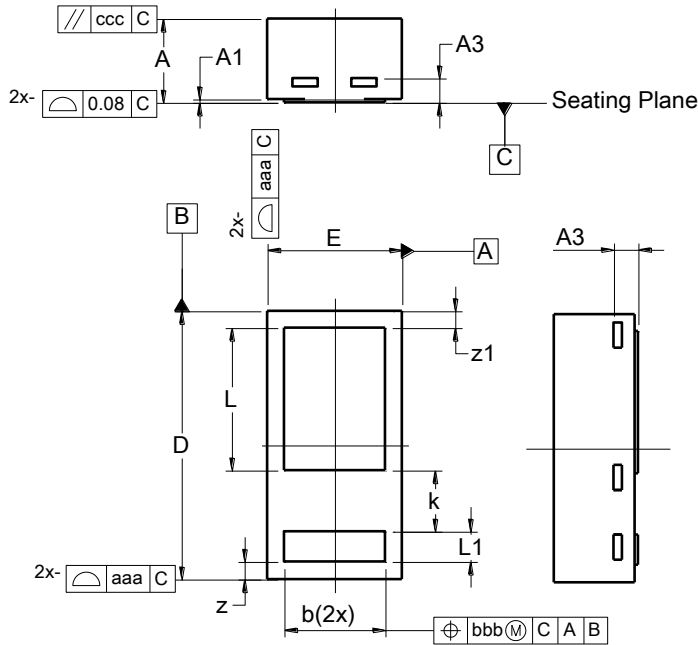


Figure 5. Typical Junction Capacitance

**Package Outline Dimensions**

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

**U-DFN1608-2 (Type C)**

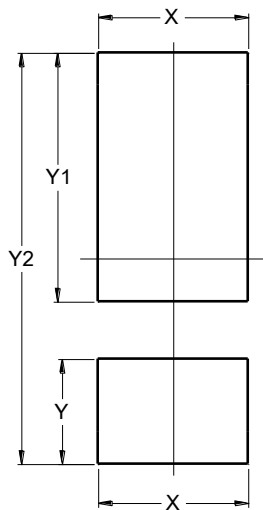


U-DFN1608-2 (Type C)			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0.00	0.05	0.02
A3	--	--	0.127
b	0.55	0.65	0.60
D	1.55	1.65	1.60
E	0.75	0.85	0.80
k	0.365 REF		
L	0.80	0.90	0.85
L1	0.13	0.23	0.18
z	0.105 REF		
z1	0.10 REF		
aaa	0.15		
bbb	0.10		
ccc	0.10		
All Dimensions in mm			

**Suggested Pad Layout**

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

**U-DFN1608-2 (Type C)**



Dimensions	Value (in mm)
X	0.700
Y1	0.485
Y2	1.150
Y3	1.900

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