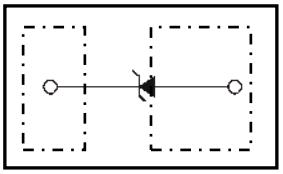
## Features

- 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 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 e4
- Weight: 0.003 grams (Approximate)



Top view

U-DFN1608-2 (Type C)

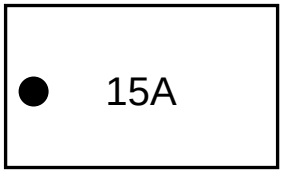

Device Schematic

## 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 (@$T_A$ = +25°C, unless otherwise specified.)

| Characteristic | Symbol | Value | Unit | Conditions |
|---|---|---|---|---|
| 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) | | $P_D$ | 300 | mW |
| Thermal Resistance, Junction to Ambient | $T_A$ = +25°C | $R_{\theta JA}$ | 417 | °C/W |
| Operating and Storage Temperature Range | | $T_J$, $T_{STG}$ | -55 to +150 | °C |

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

| Part Number | Reverse Standoff Voltage | Breakdown Voltage | | Test Current | Maximum Reverse Leakage Current @ $V_{RWM}$ (Note 6) | Maximum Clamping Voltage @ $I_{PP}$ (Note 7) | Maximum Peak Pulse Current | Channel Input Capacitance (Note 8) $V_R$ = 0V, f = 1MHz, Any I/O to GND | Marking Code |
|---|---|---|---|---|---|---|---|---|---|
| | | $V_{BR}$ @ $I_T$ | | | | | | | |
| | $V_{RWM}$ (V) | Min (V) | Max (V) | $I_T$ (mA) | $I_R$ (µA) | $V_C$ (V) | $I_{PP}$ (A) | (pF) | |
| 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 ($I_{PP}$) waveform.
8. Measured from any I/O to GND.

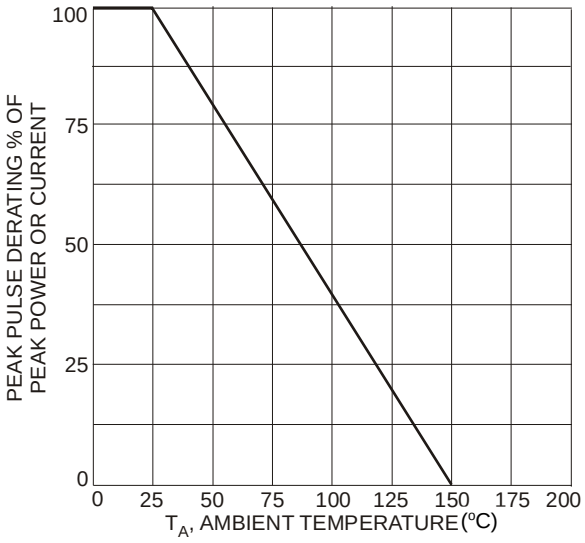



Figure 1. Pulse Derating Curve

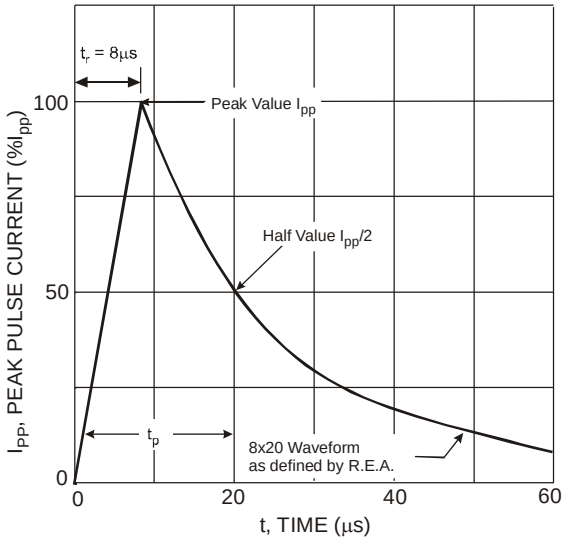



Figure 2. Pulse Waveform

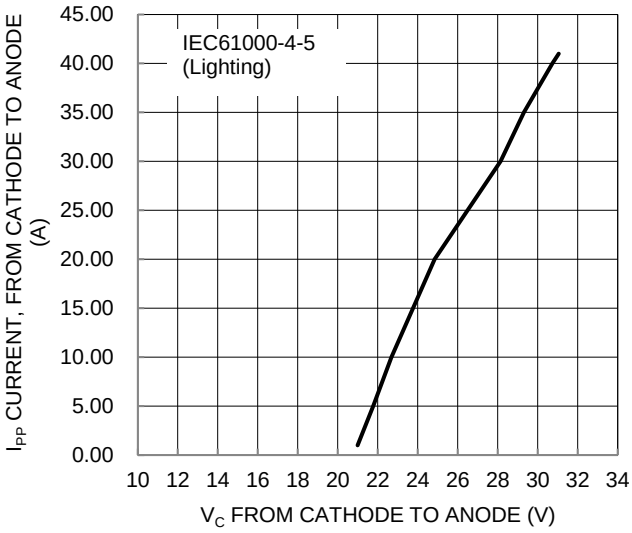



Figure 3. Clamping Voltage Characteristic

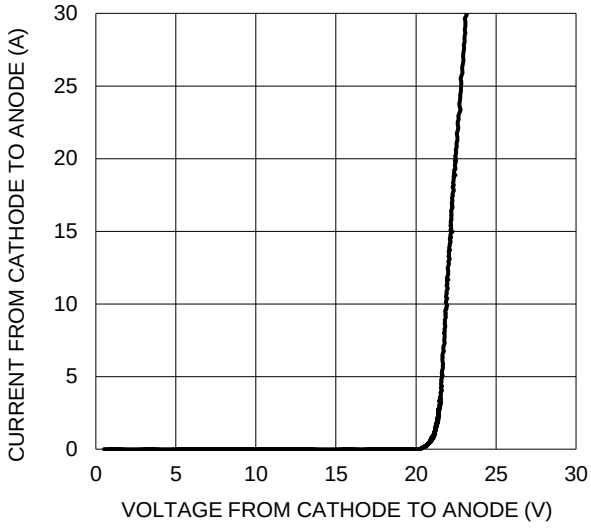



Figure 4. Current vs Voltage (TLP, $t_P$=100ns)

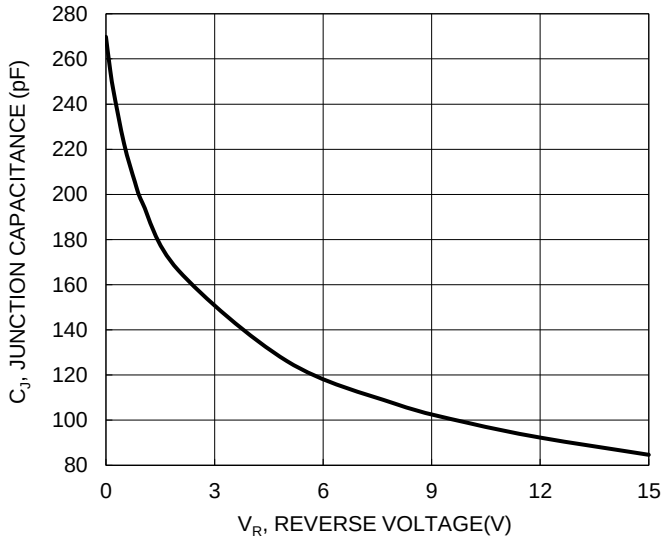
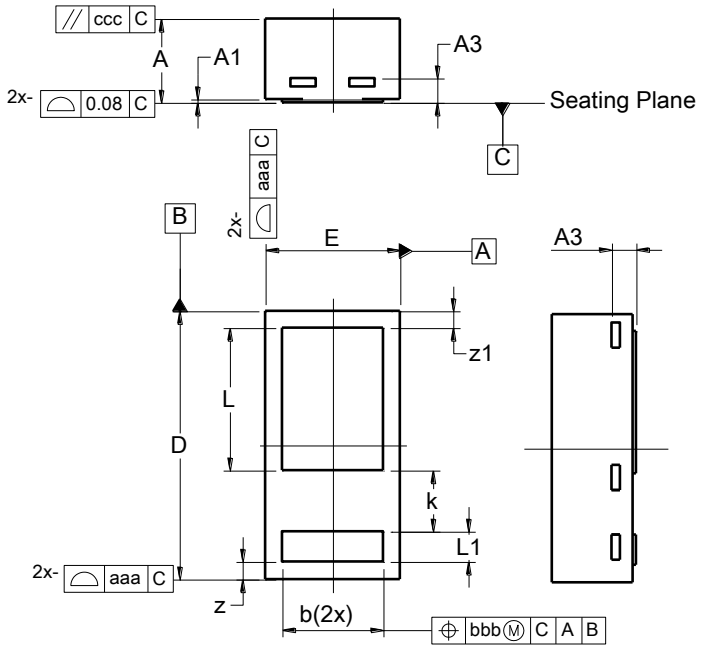



Figure 5. Typical Junction Capacitance

## Package Outline Dimensions

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

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

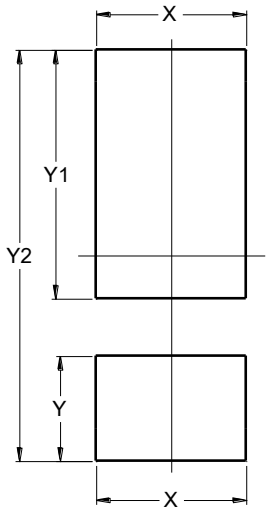



| U-DFN1608-2 (Type C) | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 0.47 | 0.53 | 0.50 |
| **A1** | 0.00 | 0.05 | 0.02 |
| **A3** | -- | -- | 0.127 |
| **b** | 0.55 | 0.65 | 0.60 |
| **D** | 1.55 | 1.65 | 1.60 |
| **E** | 0.75 | 0.85 | 0.80 |
| **k** | 0.365 REF | | |
| **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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