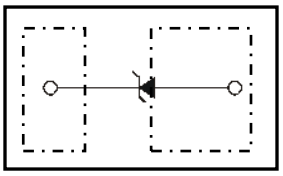
Features

- 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-Q100/101/104/200, 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)

U-DFN1608-2 (Type C)



Top view

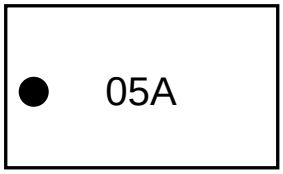
Device Schematic

Ordering Information (Note 4)

Part Number	Package	Marking	Reel Size (inches)	Tape Width (mm)	Packing	
					Qty.	Carrier
D5V0S1U2LP1608A-7	U-DFN1608-2 (Type C)	05A	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



05A = 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 (nA)	V_C (V)	I_{PP} (A)	(pF)	
D5V0S1U2LP1608A-7	5	6	9	1	200	15	80	800	05A

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 8 x 20µs peak pulse current (I_{PP}) waveform.
8. Measured from any I/O to GND.

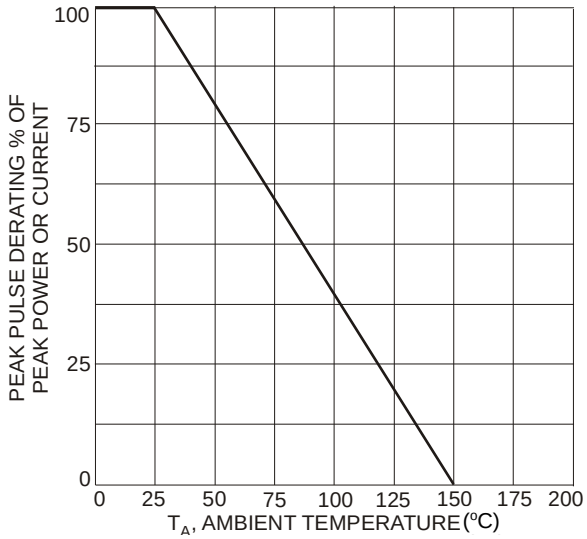


Figure 1. Pulse Derating Curve

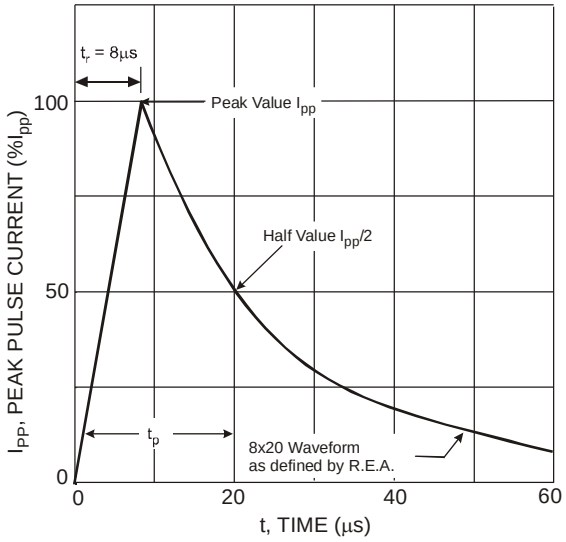


Figure 2. Pulse Waveform

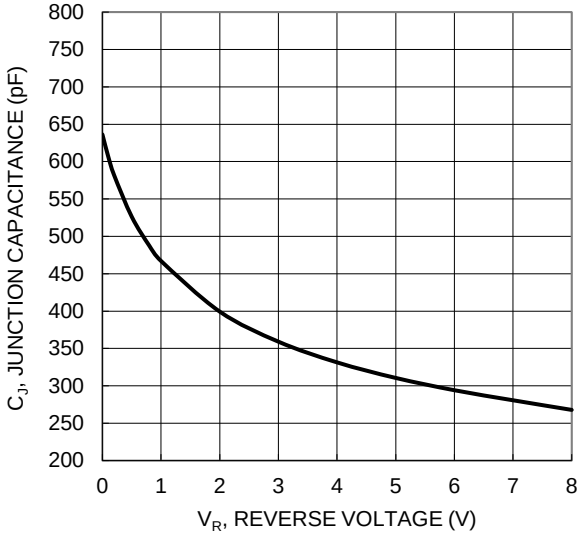


Figure 3. Typical Junction Capacitance

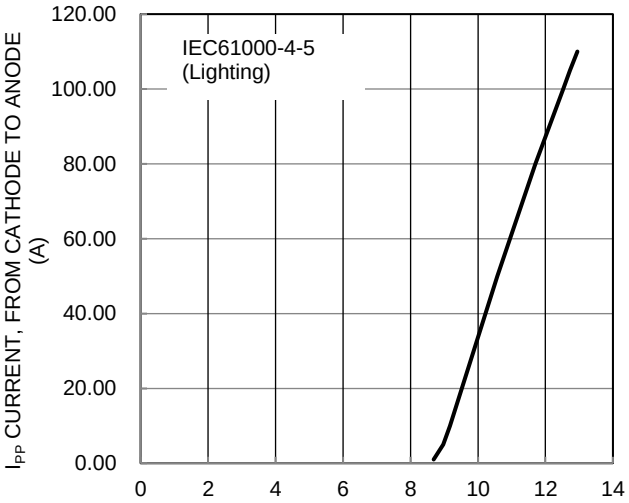


Figure 4. Clamping Voltage Characteristic

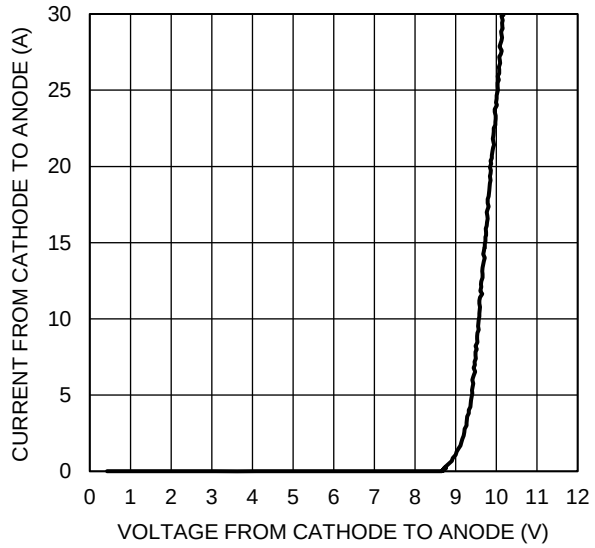
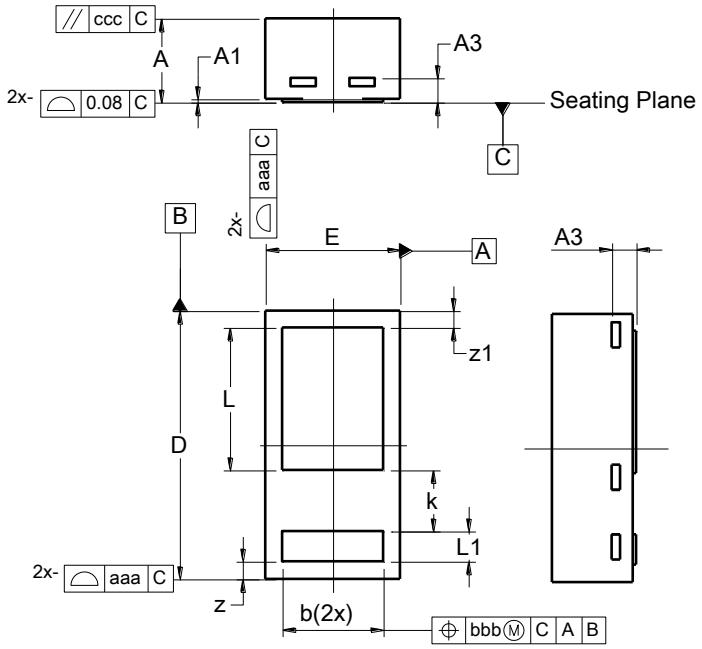


Figure 5. Current vs. Voltage (TLP, tp = 100ns)

Package Outline Dimensions

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

U-DFN1608-2 (Type C)

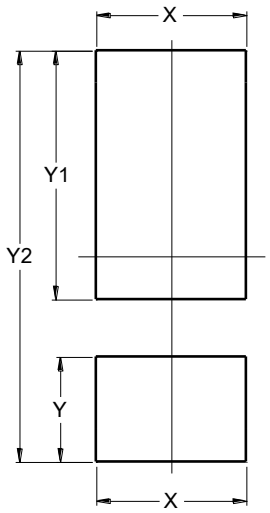


U-DFN1608-2 (Type C)			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0.00	0.05	0.02
A3	--	--	0.127
b	0.55	0.65	0.60
D	1.55	1.65	1.60
E	0.75	0.85	0.80
k	0.365 REF		
L	0.80	0.90	0.85
L1	0.13	0.23	0.18
z	0.105 REF		
z1	0.10 REF		
aaa	0.15		
bbb	0.10		
ccc	0.10		
All Dimensions in mm			

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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