

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)**
- **The D36V0S1U2LP1610Q is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**
<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

- Case: U-DFN1610-2
- Case 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-DFN1610-2 (Type B)



Device Schematic

Ordering Information (Note 4)

Part Number	Compliance	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
D36V0S1U2LP1610Q-7	Automotive	36T	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/>.

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 _{θJA}	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	Max. Reverse Leakage Current @ V _{RWM} (Note 6)	Max. Clamping Voltage @ I _{PP} (Note 7)	Max. 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)	
D36V0S1U2LP1610Q-7	36	37	44	1	200	59	18	165	36T

- 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.

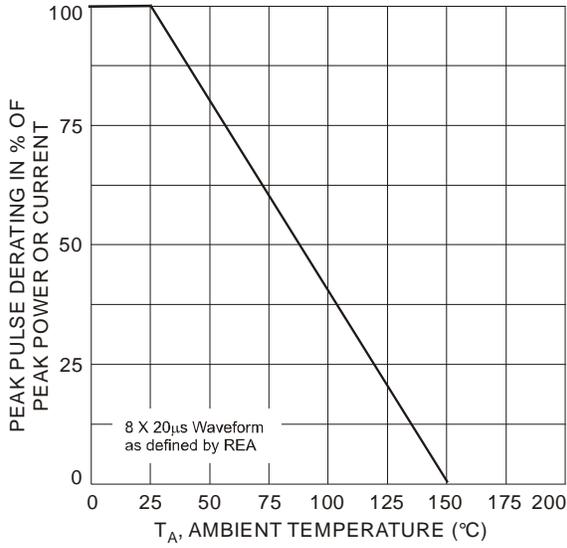


Fig. 1 Pulse Derating Curve

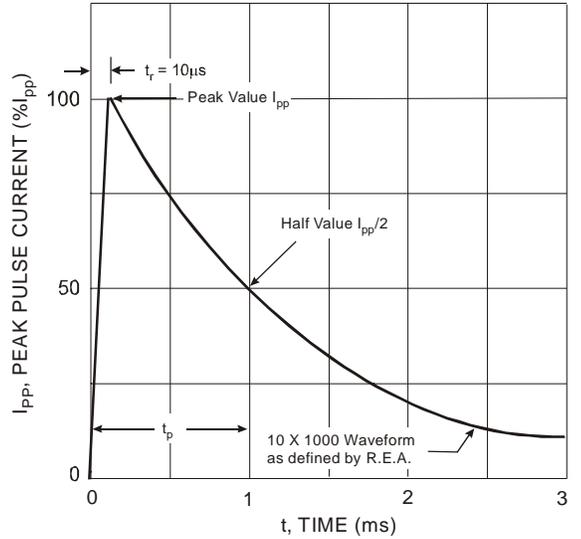


Fig. 2 Pulse Waveform

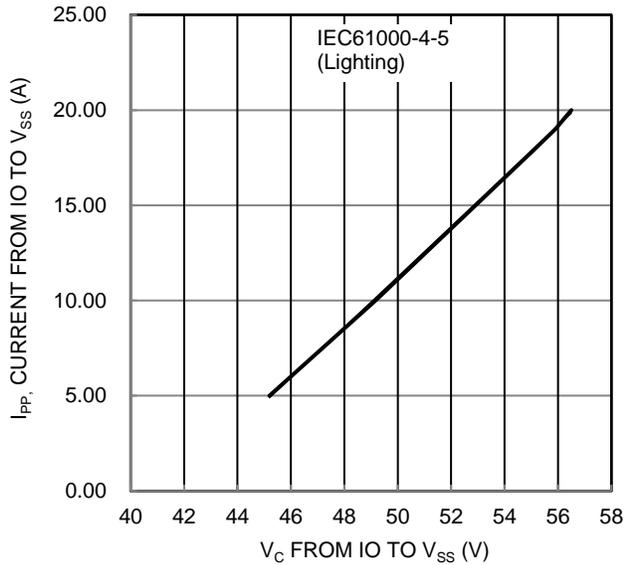


Fig. 3 Clamping Voltage Characteristic

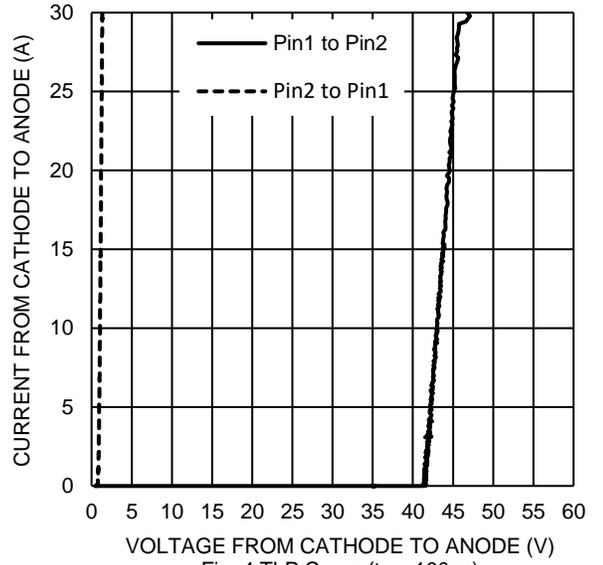
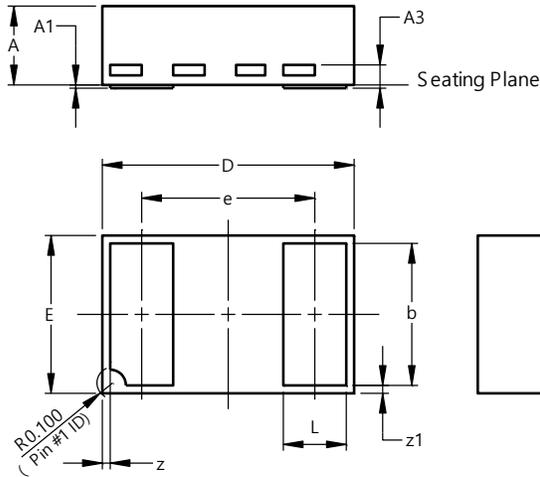


Fig. 4 TLP Curve (t_p = 100ns)

Package Outline Dimensions

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

U-DFN1610-2 (Type B)

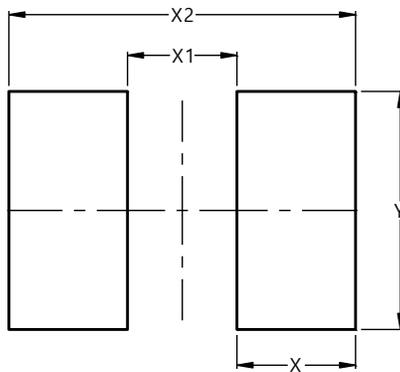


U-DFN1610-2 (Type B)			
Dim	Min	Max	Typ
A	0.45	0.55	0.50
A1	0.00	0.05	0.015
A3	-	-	0.127
b	0.85	0.95	0.90
D	1.55	1.65	1.60
E	0.95	1.05	1.00
e	-	-	1.10
L	0.35	0.45	0.40
z	0.050 REF		
z1	0.050 REF		
All Dimensions in mm			

Suggested Pad Layout

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

U-DFN1610-2 (Type B)



Dimensions	Value (in mm)
X	0.650
X1	0.600
X2	1.900
Y	1.300

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