



**THE DATASHEET OF  
D60V0L4B10LP-7**



**4 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY**
**Product Summary**

<b>VRWM (Max)</b>	<b>IPP (Max)</b>	<b>CT (Typ)</b>
60V	2A	10pF

**Description**

The D60V0L4B10LP is a high-performance device suitable for protecting four high speed I/Os. These devices are assembled in U-DFN2510-10 and U-DFN2510-10 (Type CJ) packages. They have high ESD surge capability and low capacitance.

**Applications**

- Typically used at chip-on-glass (COG) panels, VBus protections, LCD televisions, set-top boxes

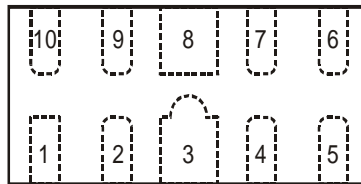
**Features**

- IEC 61000-4-2 (ESD):±8kV (Contact)
- IEC 61000-4-2 (ESD):±8kV (Air)
- 4 Channel of ESD Protection
- 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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

**Mechanical Data**

- Package: U-DFN2510-10
- Package Material: Molded Plastic, "Green" Molding Compound  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals:  
Sites 1 and 2: NiPdAu over Copper Leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208 **(e4)**  
Site 3: Matte Tin over Copper Leadframe. Solderable per MIL-STD-202, Method 208 **(e3)**
- Weight: 0.038 grams (Approximate)

Sites 1 and 2: U-DFN2510-10

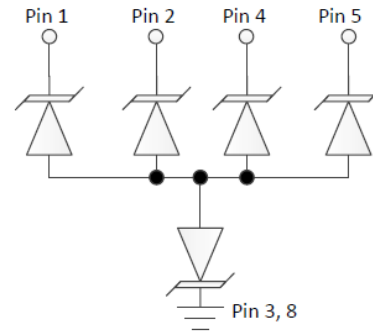


Pin #	Description
1, 2, 4, 5	I/O
6, 7, 9, 10	No Connection
3, 8	Vss

Site 3: U-DFN2510-10 (Type CJ)



Pin Description (Top View)



Schematic Diagram

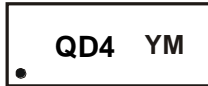
**Ordering Information (Note 4)**

Part Number	Package	Marking	Reel Size (inches)	Tape Width (mm)	Packing	
					Qty.	Carrier
D60V0L4B10LP-7	U-DFN2510-10	QD4	7	8	3,000	Tape & Reel
D60V0L4B10LP-7	U-DFN2510-10 (Type CJ)	QD4	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/>.

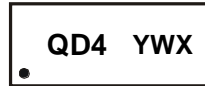
## Marking Information

Sites 1 and 3



QD4 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: K = 2023)  
 M = Month (ex: 9 = September)

Site 2



QD4 = Product Type Marking Code  
 YWX = Date Code Marking  
 Y = Year (ex: 3 = 2023)  
 W = Week  
 (ex: a=Week 27; z Represents Week 52 and 53)  
 X = Internal Code (ex: U=Monday)

Date Code Key for YM

Year	2017	-	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Code	E	-	K	L	M	N	P	R	S	T	U	V

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

Date Code Key for YWX

Year	2017	-	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Code	7	-	3	4	5	6	7	8	9	0	1	2

Week	1-26	27-52	53
Code	A-Z	a-z	z

Internal Code	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Code	T	U	V	W	X	Y	Z

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

Characteristic	Symbol	Value	Unit	Conditions
ESD Contact Discharge	V <sub>ESD</sub>	8	kV	Standard IEC 61000-4-2
Peak Pulse Current	I <sub>PP</sub>	2	A	Standard IEC 61000-4-5, 8/20μs
Operating Temperature Range	T <sub>OP</sub>	-40 to +125	°C	—
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C	—

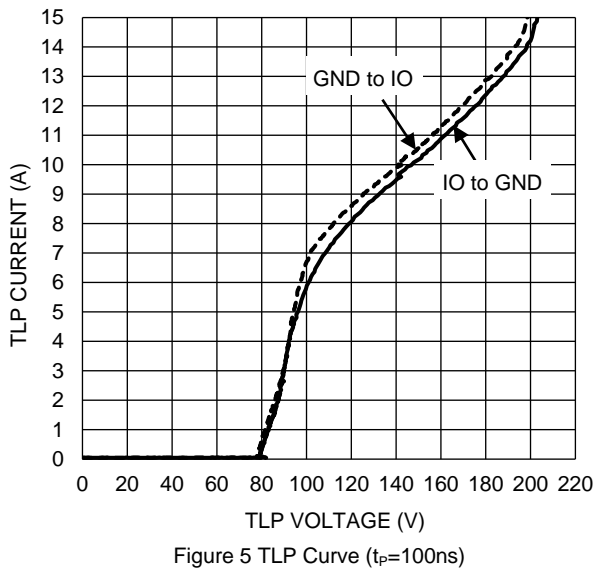
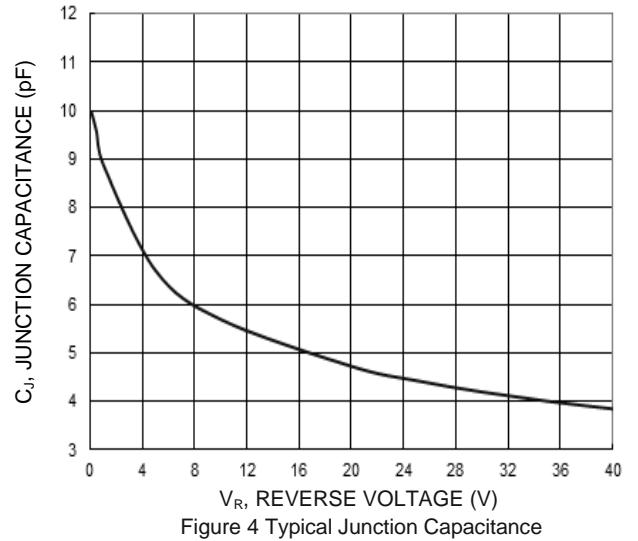
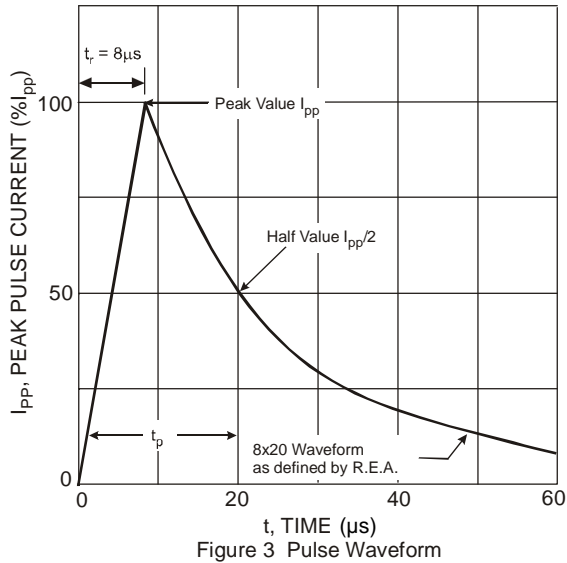
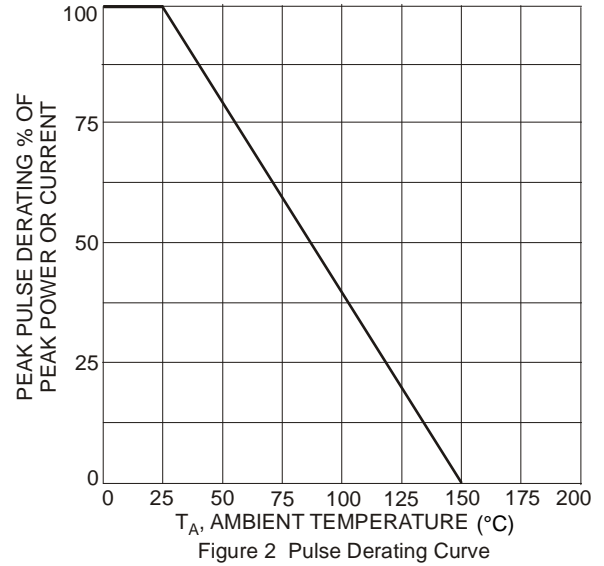
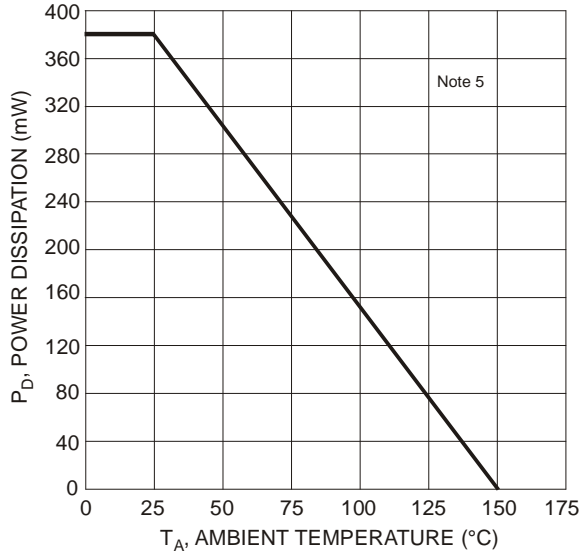
## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation Typical (Note 5)	P <sub>D</sub>	350	mW
Thermal Resistance, Junction to Ambient Typical (Note 5)	R <sub>θJA</sub>	360	°C/W
Thermal Resistance, Junction to Case Typical (Note 5)	R <sub>θJC</sub>	220	°C/W

## 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>	—	—	60	V	—
Channel Leakage Current (Note 6)	I <sub>RM</sub>	—	—	100	nA	V <sub>RWM</sub> = 60V
Clamping Voltage, Positive Transients	V <sub>CL</sub>	—	115	125	V	I <sub>PP</sub> = 2A, t <sub>p</sub> = 8/20μs
Breakdown Voltage	V <sub>BR</sub>	65	75	85	V	I <sub>R</sub> = 1mA
Channel Input Capacitance	C <sub>T</sub>	—	10	12	pF	V <sub>R</sub> = 0V, f = 1MHz

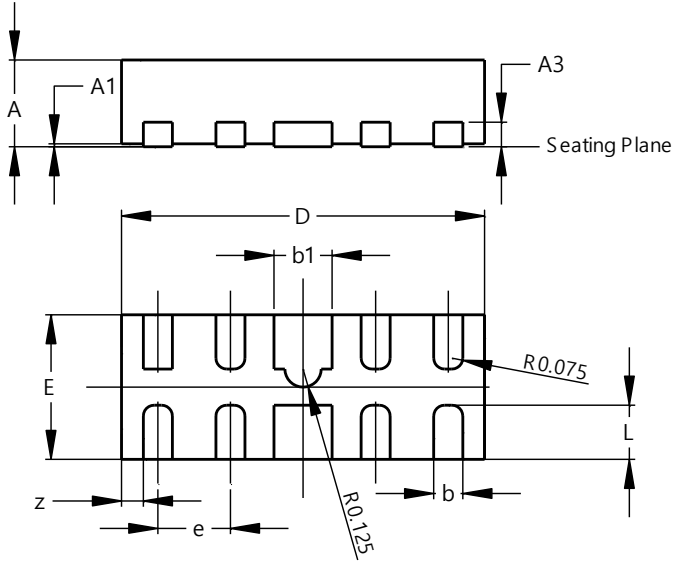
Notes: 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes Incorporated's suggested pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.  
 6. Short duration pulse test used to minimize self-heating effect.



**Package Outline Dimensions**

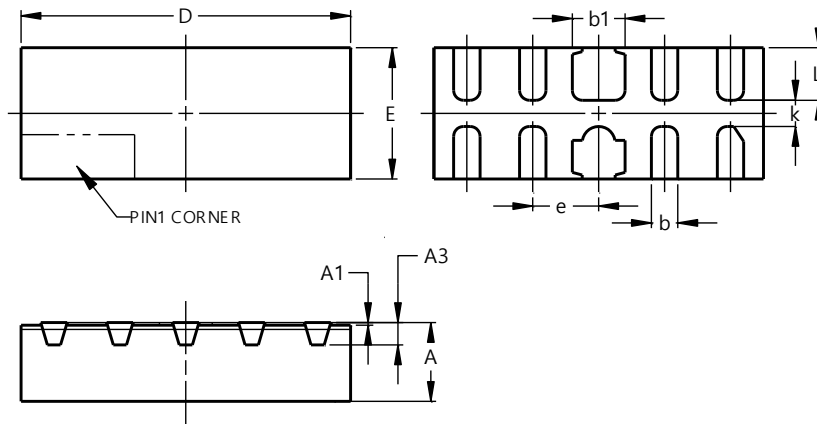
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**Sites 1 and 2: U-DFN2510-10**



U-DFN2510-10			
Dim	Min	Max	Typ
A	0.545	0.605	0.575
A1	0.00	0.05	0.03
A3	-	-	0.13
b	0.15	0.25	0.20
b1	0.35	0.45	0.40
D	2.450	2.575	2.500
e	-	-	0.50
E	0.950	1.075	1.000
L	0.325	0.425	0.375
z	-	-	0.150
All Dimensions in mm			

**Site 3: U-DFN2510-10 (Type CJ)**

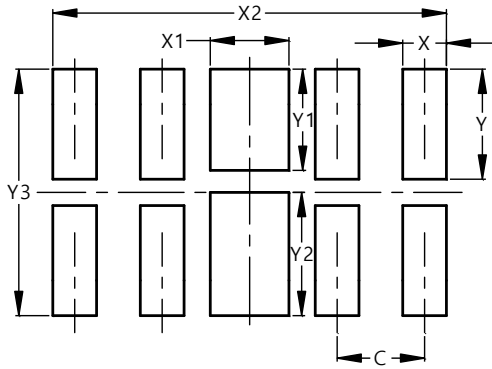


U-DFN2510-10 (Type CJ)			
Dim	Min	Max	Typ
A	0.545	0.605	--
A1	0.00	0.05	--
A3	0.152REF		
b	0.150	0.250	--
b1	0.350	0.450	--
D	2.450	2.575	--
E	0.950	1.075	--
e	--	--	0.500
E	0.950	1.075	1.000
L	0.350	0.450	--
k	0.200REF		
All Dimensions in mm			

## Suggested Pad Layout

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

All Sites: U-DFN2510-10 and U-DFN2510-10 (Type CJ)



Dimensions	Value (in mm)
C	0.500
X	0.250
X1	0.450
X2	2.250
Y	0.625
Y1	0.575
Y2	0.700
Y3	1.400

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