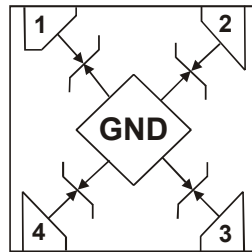


Features

- Provides ESD Protection per IEC 61000-4-2 Standard:
Air $\pm 15\text{kV}$, Contact $\pm 15\text{kV}$
- 4 Channel of ESD Protection
- Low Channel Input Capacitance of 4.8pF Typical
- IEC 61000-4-5 (Surge): 3A ($t_p = 8 \times 20\mu\text{s}$)
- Ultra Low Leakage Current 100nA (max)
- Typically Used in Cellular Handsets, Portable Electronics, Communication Systems, Computers and Peripherals
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: X2-DFN0808-4
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish — NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽⁴⁾
- Weight: 0.0015 grams (Approximate)



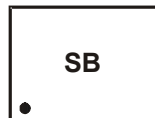
Top View
Pin Configuration

Ordering Information (Note 4)

Product	Compliance	Marking	Reel size(inches)	Tape width(mm)	Quantity per reel
D5V0P4B5LP08-7	Standard	SB	7	8	10,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html 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 <http://www.diodes.com/products/packages.html>.

Marking Information



SB = Product Type Marking Code

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit	Conditions
Peak Pulse Power Dissipation	P _{PP}	40	W	8/20μs
Peak Pulse Current	I _{PP}	3	A	8/20μs
ESD Protection – Contact Discharge	V _{ESD_Contact}	±15	kV	IEC 61000-4-2 Standard
ESD Protection – Air Discharge	V _{ESD_Air}	±15	kV	IEC 61000-4-2 Standard

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Package Power Dissipation (Note 5)	P _D	300	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	417	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Standoff Voltage	V _{RWM}	—	—	±5.5	V	—
Leakage Current (Note 6)	I _{RM}	—	—	100	nA	V _{RWM} = 5V
Clamping Voltage from Data Pin to GND	V _{CL1}	—	10 13	—	V	I _{PP} = 1A, t _p = 8/20μs I _{PP} = 3A, t _p = 8/20μs
Clamping Voltage from GND to Data Pin	V _{CL2}	—	9 13	—	V	I _{PP} = 1A, t _p = 8/20μs I _{PP} = 3A, t _p = 8/20μs
Dynamic Resistance	R _{DYN}	—	0.45 0.42	—	Ω	Pins to GND (Note 7) GND to Pins (Note 7)
IO Capacitance	C _{IO}	—	4.8	7	pF	V _{IO} = 2.5V, f = 1MHz
Breakdown Voltage from Data Pin to GND	V _{BRF}	6	—	—	V	I _R = 1mA
Breakdown Voltage from GND to Data Pin	V _{BRR}	6	—	—	V	I _R = 1mA

- Notes:
- Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
 - Short duration pulse test used to minimize self-heating effect.
 - Extraction of R_{DYN} using least squares fit of TLP between I = 10A and I = 20A.

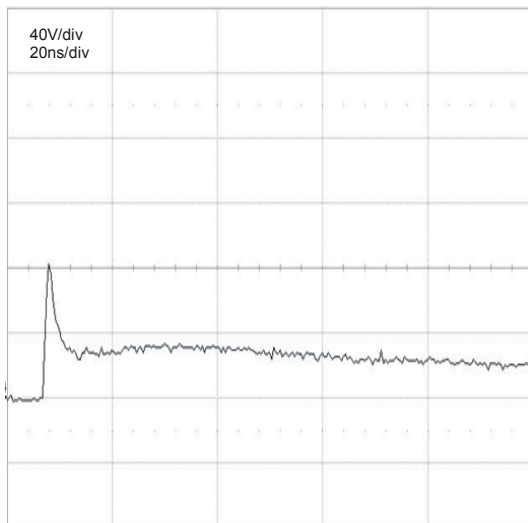


Figure 1 IEC 6100-4-2 Clamping Voltage
+8kV Contact

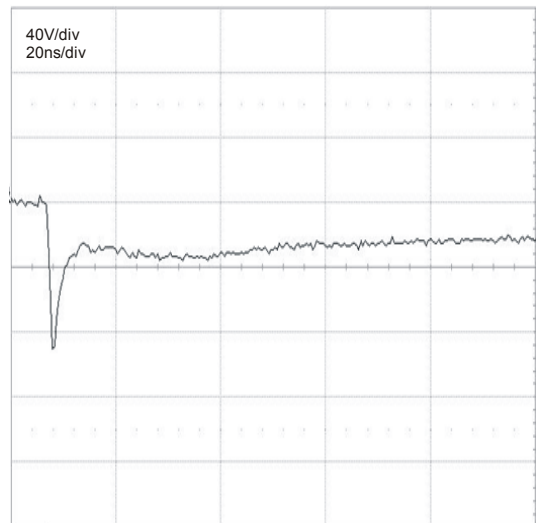


Figure 2 IEC 6100-4-2 Clamping Voltage
-8kV Contact

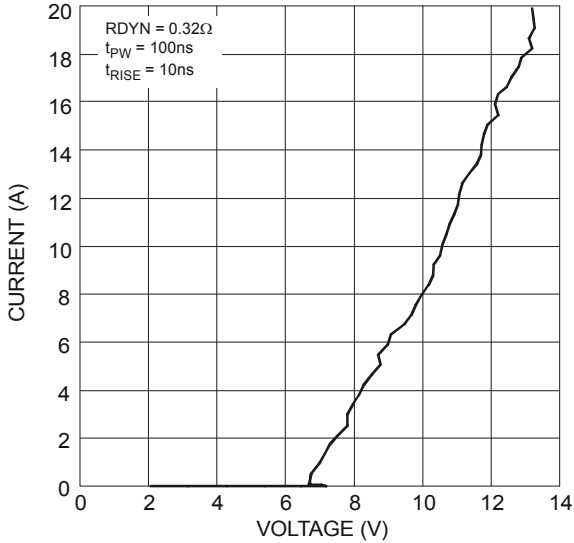


Figure 3 TLP, t_{PW} = 100nS, t_{RISE} = 10nS,
Data to GND

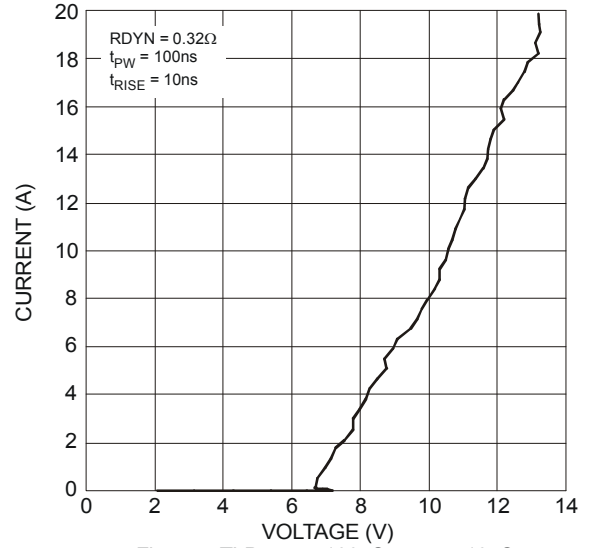


Figure 4 TLP, t_{PW} = 100nS, t_{RISE} = 10nS,
GND to Data

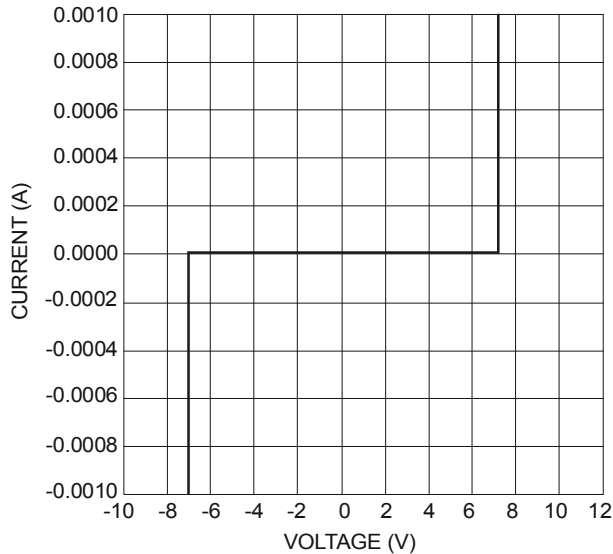


Figure 5 IV Curve

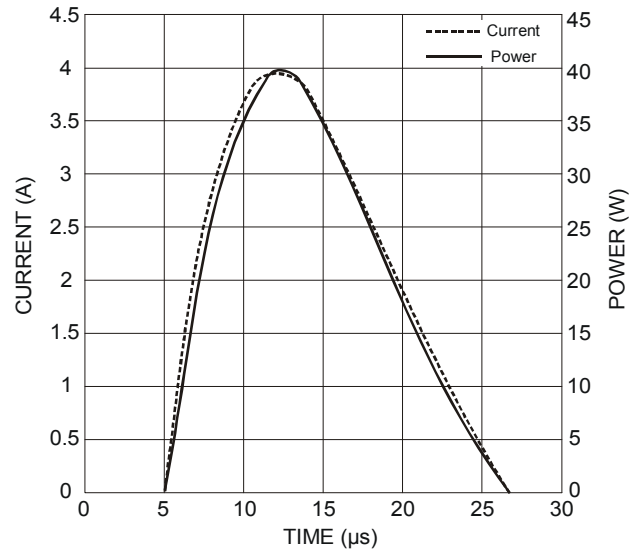


Figure 6 Surge Curves, Data to GND

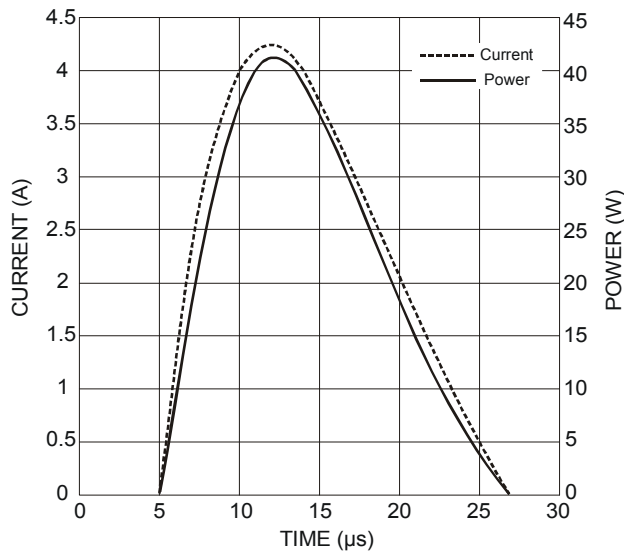


Figure 7 Surge Curves, GND to Data

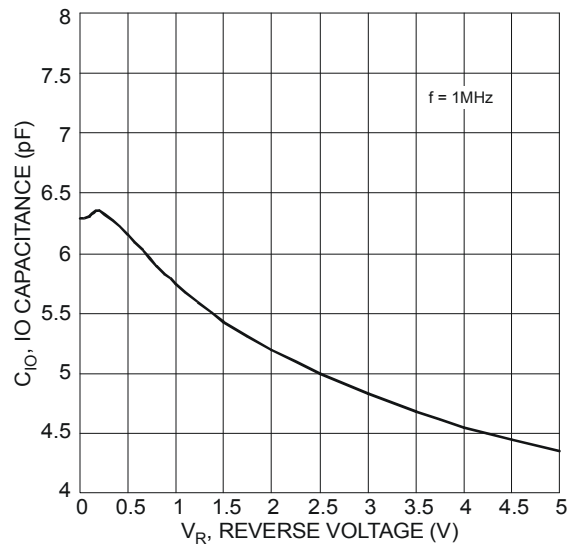
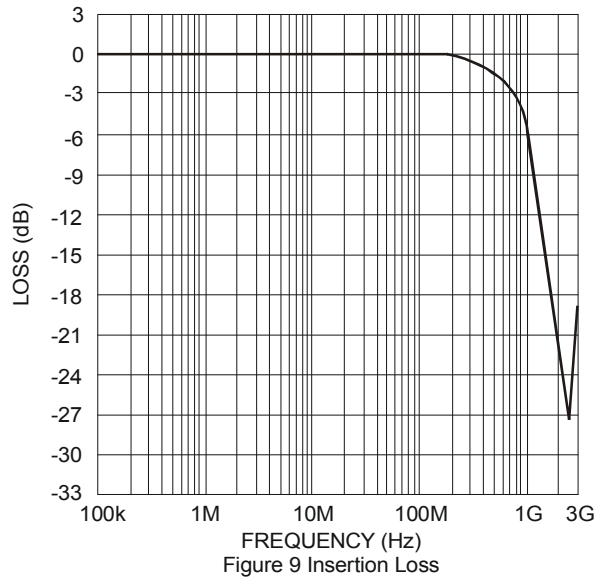
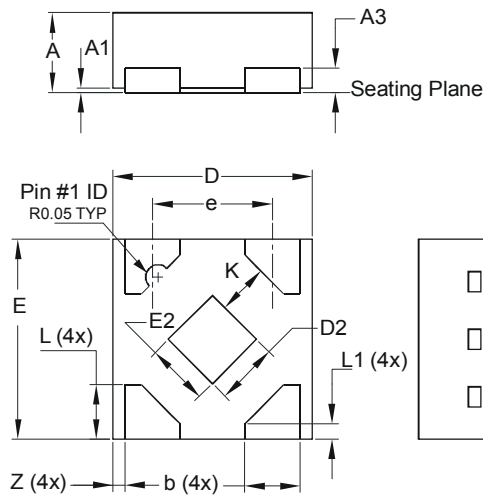


Figure 8 Typical Junction Capacitance



Package Outline Dimensions

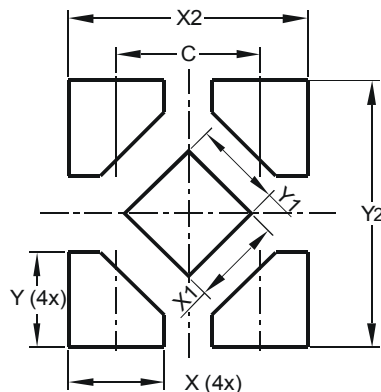
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



X2-DFN0808-4			
Dim	Min	Max	Typ
A	0.25	0.35	0.30
A1	0	0.04	0.02
A3	-	-	0.13
b	0.17	0.27	0.22
D	0.75	0.85	0.80
D2	0.15	0.35	0.25
E	0.75	0.85	0.80
E2	0.15	0.35	0.25
e	-	-	0.48
K	0.20	-	-
L	0.17	0.27	0.22
L1	0.02	0.12	0.07
Z	-	-	0.05
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	0.480
X	0.320
X1	0.300
X2	0.800
Y	0.320
Y1	0.300
Y2	0.900

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