



**Features**

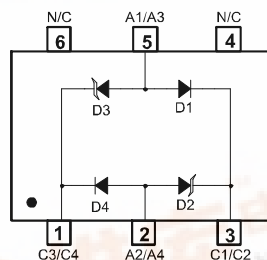
- 330 Watts Peak Pulse Power ( $t_p = 8 \times 20 \mu s$ )
- Transient Protection for data, signal, and  $V_{CC}$  bus to IEC61000-4-2 level 4 (ESD)
- Low Capacitance, typ.  $< 3$  pF
- Bidirectional Configuration
- Surface Mount Package Ideally Suited for Automated Insertion
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**

**Mechanical Data**

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish - Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.017 grams (approximate)



Top View



Device Schematic and Pin Out Configuration

**Maximum Ratings, Total Device** @ $T_A = 25^\circ C$  unless otherwise specified

| Characteristic            | Symbol   | Value | Unit |
|---------------------------|----------|-------|------|
| Peak Pulse Power (Note 2) | $P_{pk}$ | 330   | W    |

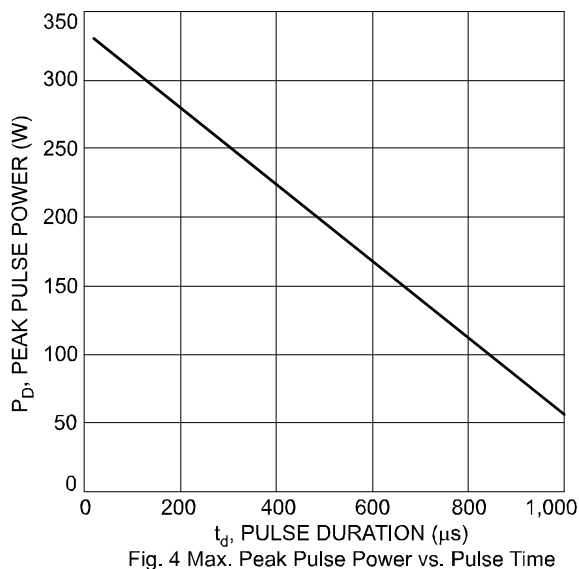
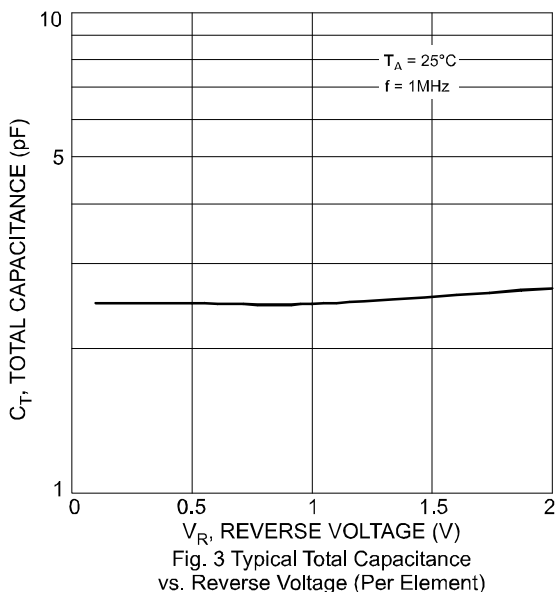
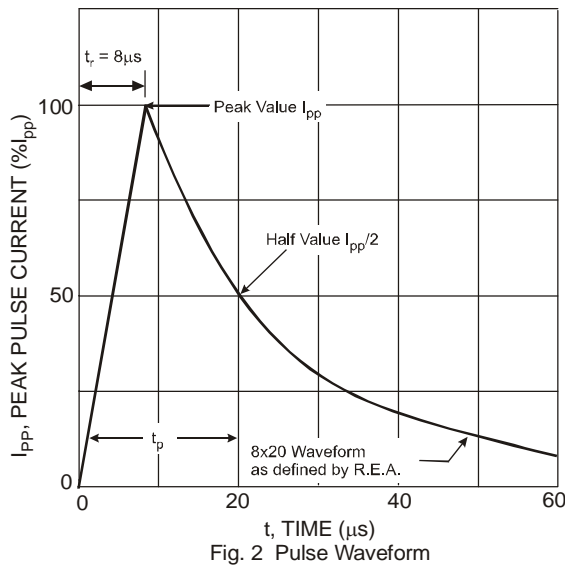
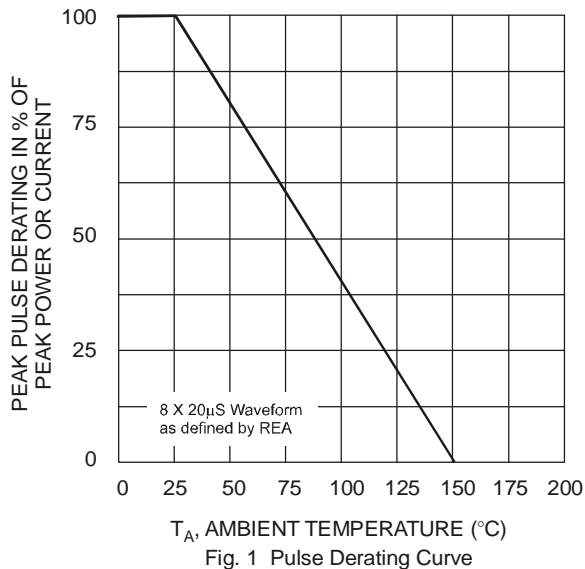
**Thermal Characteristics**

| Characteristic                                   | Symbol          | Value       | Unit         |
|--|-----------------|-------------|--------------|
| Thermal Resistance, Junction to Ambient (Note 5) | $R_{\theta JA}$ | 286         | $^\circ C/W$ |
| Operating and Storage Temperature Range          | $T_J, T_{STG}$  | -55 to +150 | $^\circ C$   |

**Electrical Characteristics** @ $T_A = 25^\circ C$  unless otherwise specified

| Reverse Standoff Voltage | Breakdown Voltage $V_{BR}$ @ $I_T$ |         | Test Current | Max. Reverse Leakage @ $V_{RWM}$ (Note 7) | Max. Clamping Voltage @ $I_P = 1A$ (Note 2) | Max. Clamping Voltage $V_C$ @ $I_{PP}$ (Note 2) | Max. Peak Pulse Current (Note 2) | Typical Total Capacitance (Note 1) |
|--------------------------|------------------------------------|---------|--------------|---|---|---|----------------------------------|------------------------------------|
|                          | $V_{RWM}$ (V)                      | Min (V) |              |   |   |   |                                  |                                    |
| 3.3                      | 4.0                                | —       | 1.0          | 0.11                                      | 8.0   | 22  | 15                               | 2.5                                |

- Notes:
1.  $V_R = 0V$ ,  $f = 1MHz$  as measured between pins 1 and 3.
  2.  $t_p = 8 \times 20 \mu s$ . See figure 2.
  3. No purposefully added lead.
  4. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  5. Device mounted on FR-4 PCB with pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  6. From pin 3 to pin 1, and/or from pin 1 to pin 3.
  7. Short duration pulse test used to minimize self-heating effect.

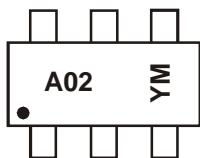


**Ordering Information** (Note 8)

| Part Number | Case   | Packaging        |
|-------------|--------|------------------|
| DLPD3V3LC-7 | SOT-26 | 3000/Tape & Reel |

Notes: 8. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



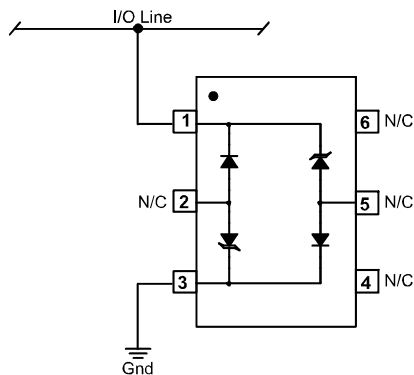
A02 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: U = 2007)  
 M = Month (ex: 9 = September)

Date Code Key

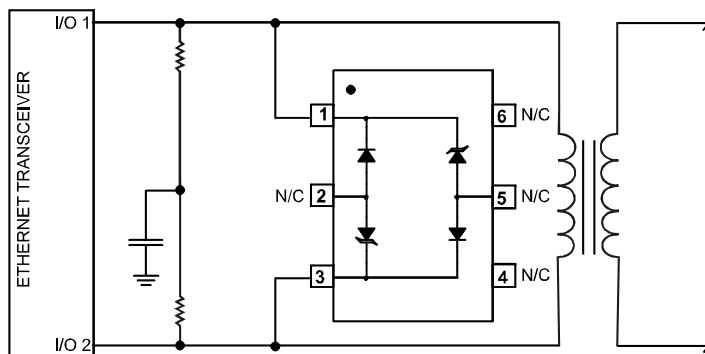
| Year  | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |     |     |     |
|-------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| Code  | U    | V    | W    | X    | Y    | Z    | A    | B    | C    |     |     |     |
| Month | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct | Nov | Dec |
| Code  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | O   | N   | D   |

**Typical Applications**

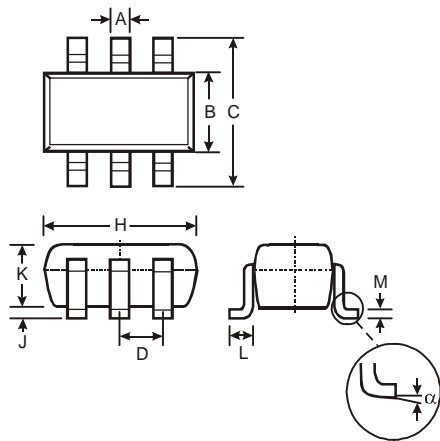
Common-Mode I/O Port Protection



Differential-Mode Ethernet Protection

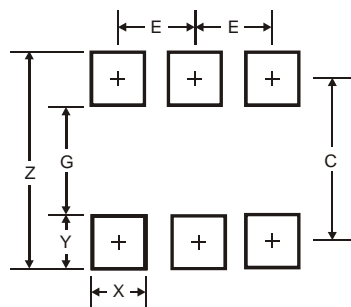


**Package Outline Dimensions**



| SOT-26               |       |      |      |
|----------------------|-------|------|------|
| Dim                  | Min   | Max  | Typ  |
| A                    | 0.35  | 0.50 | 0.38 |
| B                    | 1.50  | 1.70 | 1.60 |
| C                    | 2.70  | 3.00 | 2.80 |
| D                    | —     | —    | 0.95 |
| H                    | 2.90  | 3.10 | 3.00 |
| J                    | 0.013 | 0.10 | 0.05 |
| K                    | 1.00  | 1.30 | 1.10 |
| L                    | 0.35  | 0.55 | 0.40 |
| M                    | 0.10  | 0.20 | 0.15 |
| $\alpha$             | 0°    | 8°   | —    |
| All Dimensions in mm |       |      |      |

**Suggested Pad Layout**



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 3.20          |
| G          | 1.60          |
| X          | 0.55          |
| Y          | 0.80          |
| C          | 2.40          |
| E          | 0.95          |

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