

## ESD PROTECTION DEVICE

**STAND-OFF VOLTAGE – 18 Volts  
POWER DISSIPATION – 350 Watts**

### FEATURES

- Protects one power or I/O line
- Max. peak pulse power:  $P_{pp} = 350W$  at  $t_p = 8/20$  us
- Ultra Low Capacitance: 0.6pF Typical
- Low clamping voltage
- IEC 61000-4-2, level 4 (ESD),  $> \pm 30KV$  (air);  $> \pm 27KV$  (contact)
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

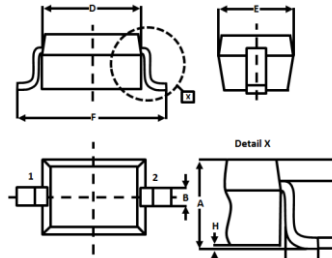
### MECHANICAL DATA

- Package material: "Green" molding compound UL flammability classification 94V-0 (No Br, Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish), solderability per J-STD-002 and JESD22-B102.
- Moisture Sensitivity: Level 1 per J-STD-020
- Component in accordance to RoHs 2011/65/EU

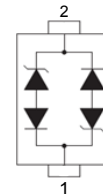
### APPLICATION

- Ethernet - 10/100/1000 Base T
- Handheld - wireless systems
- USB interfaces

### SOD-323



| SOT-23                       |      |      |
|------------------------------|------|------|
| DIM.                         | MIN. | MAX. |
| A                            | 0.80 | 1.10 |
| B                            | 0.25 | 0.40 |
| C                            | 0.10 | 0.25 |
| D                            | 1.60 | 1.80 |
| E                            | 1.15 | 1.35 |
| F                            | 2.30 | 2.70 |
| G                            | 0.15 | 0.45 |
| H                            | ---- | 0.10 |
| I                            | 0.15 | 0.25 |
| All Dimensions in millimeter |      |      |



| PIN ASSIGNMENT |         |
|----------------|---------|
| 1              | Cathode |
| 2              | Cathode |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

### ABSOLUTE RATINGS

| PARAMETER                                | SYMBOL    | VALUE       | UNIT |
|--|-----------|-------------|------|
| Peak pulse power ( $t_p = 8/20\mu s$ )   | $P_{PK}$  | 350         | W    |
| Peak pulse current ( $t_p = 8/20\mu s$ ) | $I_{PP}$  | 8           | A    |
| Operating junction temperature range     | $T_J$     | -55 to +125 | °C   |
| Storage temperature range                | $T_{STG}$ | -55 to +150 | °C   |
| Soldering temperature, $t_{max} = 10s$   | $T_L$     | 260         | °C   |

### ELECTRICAL CHARACTERISTICS

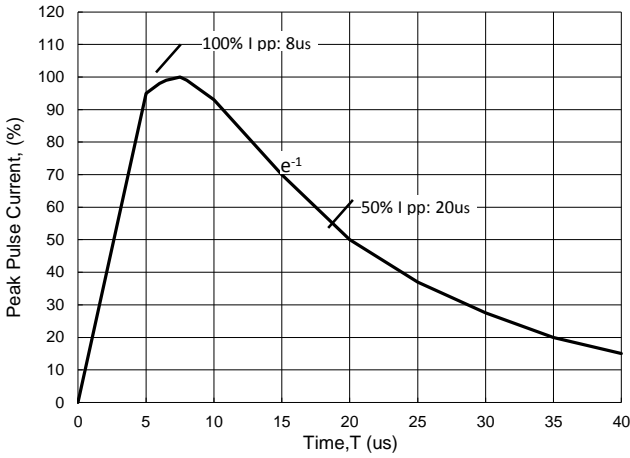
| PARAMETER                 | SYMBOL    | CONDITIONS                     | MIN. | TYP. | MAX  | UNIT    |
|---------------------------|-----------|--------------------------------|------|------|------|---------|
| Reverse stand-off voltage | $V_{RWM}$ | --                             | --   | --   | 18   | V       |
| Breakdown voltage         | $V_{BR}$  | $I_T = 1mA$                    | 20   | --   | --   | V       |
| Reverse leakage current   | $I_{RM}$  | $V_{DRM} = 18V$                | --   | --   | 1.0  | $\mu A$ |
| Junction capacitance      | $C_J$     | $V_R = 0V, f = 1MHz$           | --   | 0.6  | 0.7  | pF      |
| Clamping voltage          | $V_C$     | $I_{PP} = 1A, t_p = 8/20\mu s$ | --   | --   | 30.5 | V       |
|                           |           | $I_{PP} = 8A, t_p = 8/20\mu s$ | --   | --   | 44.0 |         |

#### Notes:

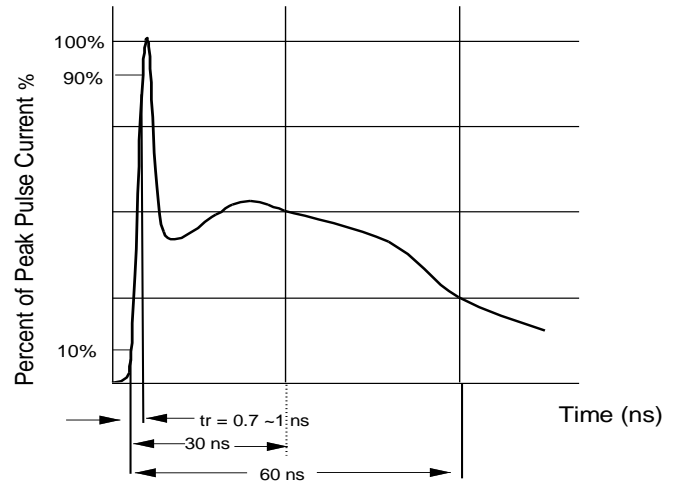
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**RATING AND CHARACTERISTIC CURVES  
L35L18VCB2**

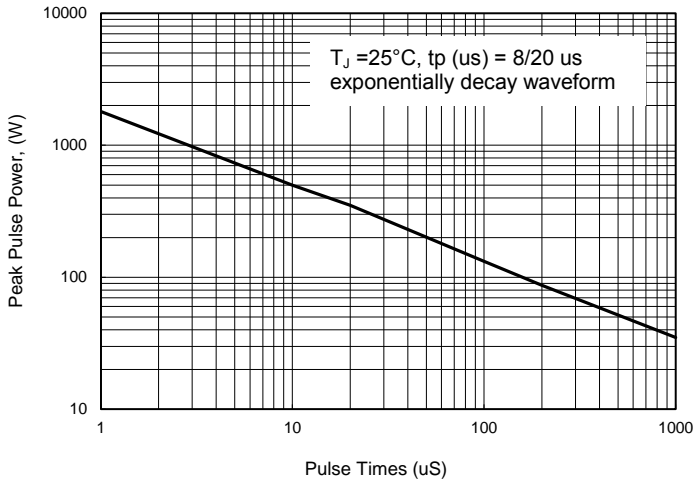
**FIG.1- 8/20us pulse waveform according to IEC 61000-4-5**



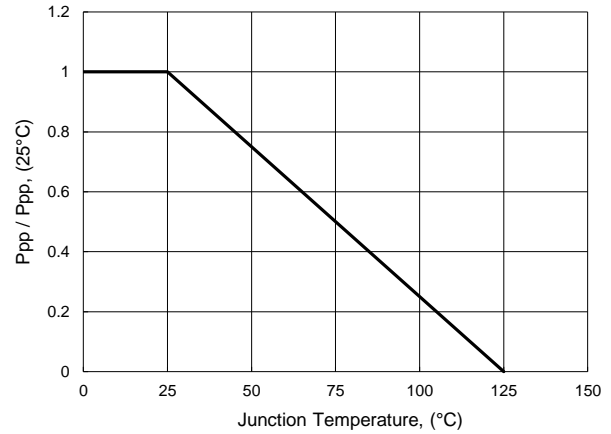
**FIG.2- ESD pulse waveform according to IEC 61000-4-2**



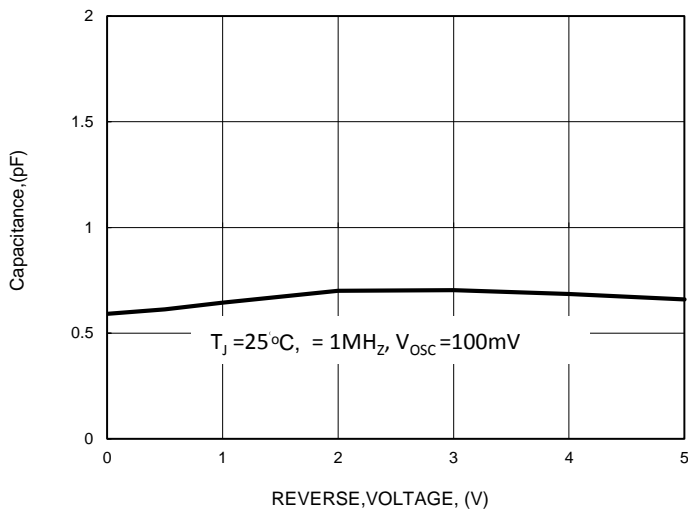
**Figure 3. Power Dissipation versus Pulse Time**



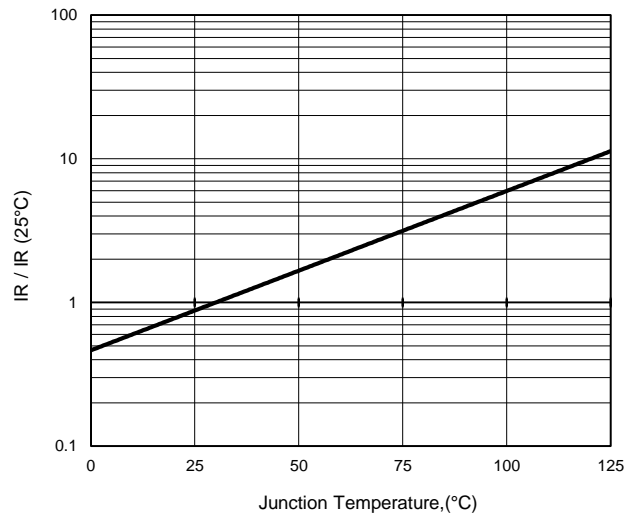
**FIG.4- peak pulse power versus Tj**



**FIG.5- Typical Junction Capacitance**



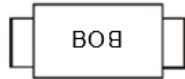
**Figure 6. Reverse Leakage Current versus TJ**



**Ordering Information :**

| Part Number | Package | Packing |         |
|-------------|---------|---------|---------|
|             |         | Qty.    | Carrier |
| L35L18VCB2  | SOD-323 | 3000pcs | Reel    |

**Marking Information :**

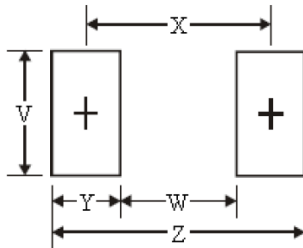


BOB = Product Type Marking Code

**Packaging Information :**

| DEVICE     | Q'TY/REEL (PCS) | REEL DIA. (INCH) | Q'TY/BOX (PCS) | Q'TY/CARTON (PCS) |
|------------|-----------------|------------------|----------------|-------------------|
| L35L18VCB2 | 3000            | 7                | 45K            | 90K               |

**Suggested Pad Layout :**



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 3.05          |
| X          | 2.15          |
| W          | 1.25          |
| Y          | 0.90          |
| V          | 0.70          |

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