

## Description

The ASL05LB is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time. The ASL05LB suited for use in cellular phones, portable device, digital cameras, power supplies and many other portable applications.



## Mechanical Characteristics

- ◆ DNF0603-2L
- ◆ ROHS/ Compliant
- ◆ Halogen free
- ◆ Molding compound flammability rating: UL94V-0
- ◆ Marking: Part number
- ◆ Packing: Tape and Reel per EIA 481


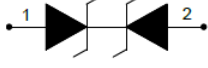
## Features

- ◆ IEC 61000-4-2 (ESD)
  - ±25kV Contact Discharge
  - ±25kV Air Discharge
- ◆ IEC 61000-4-4 EFT Protection
  - 40A (5/50ns)
- ◆ Halogen free and RoHS compliant
- ◆ IEC 61000-4-5 (Lightning)
  - 8A (8/20us)
- ◆ Transient protection for high-speed datalines
- ◆ Protects one directional I/O lines
- ◆ AEC-Q101 qualified
- ◆ Low leakage current

## Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants
- ◆ Notebooks / Desktops / Servers
- ◆ Portable Instrumentation
- ◆ Peripherals & Pagers

### Dimensions and Pin Configuration

| Pin | Name | Description   | Outline  | Circuit Diagram   |
|-----|------|---------------|--|---|
| 1   | IO1  | Connect to IO |  |  |
| 2   | IO2  | Connect to IO |  |   |

### Ordering Information

| Part Number | Package    | Marking | Material     | Packing     | Quantity per reel | Flammability Rating | Reel Size |
|-------------|------------|---------|--------------|-------------|-------------------|---------------------|-----------|
| ASL05LB     | DFN0603-2L | H       | Halogen free | Tape & Reel | 15000 PCS         | UL 94V-0            | 7 inches  |

### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

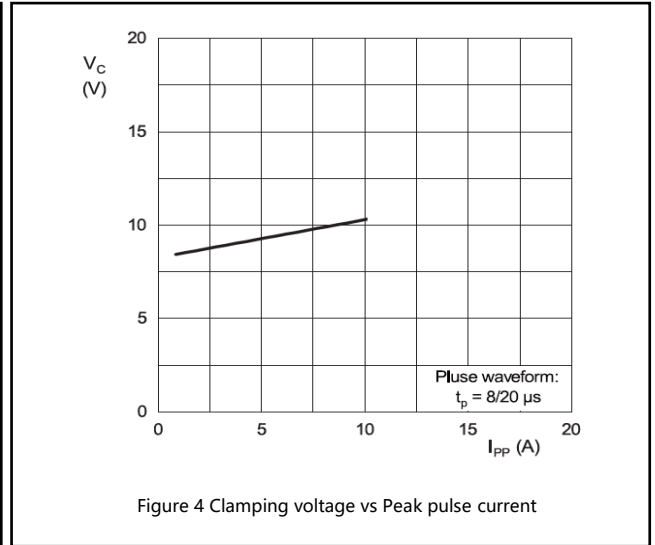
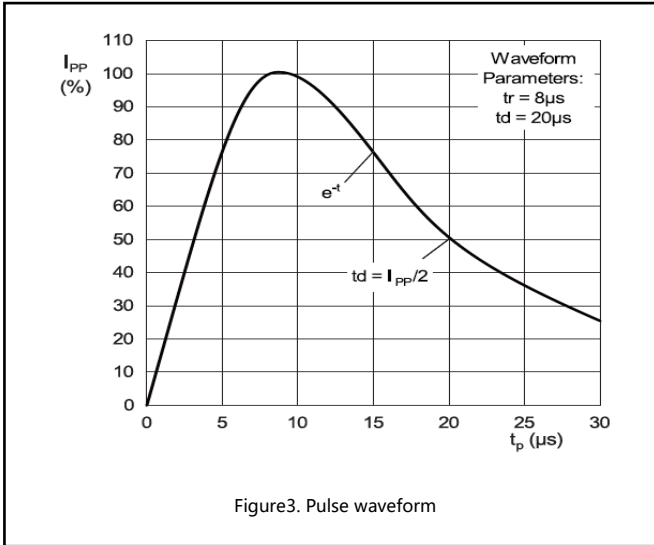
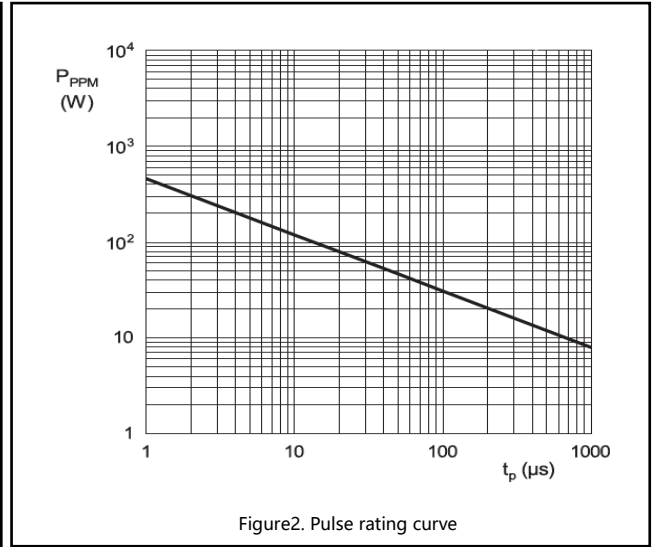
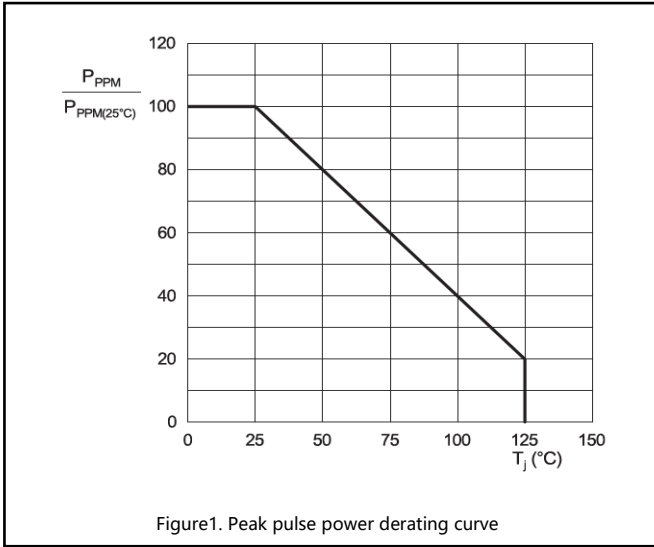
| Parameters  | Symbol    | Min. | Max. | Unit |
|---|-----------|------|------|------|
| Peak pulse power ( $t_p=8/20\mu\text{s}$ )@25°C   | $P_{pk}$  | -    | 80   | W    |
| Peak pulse current ( $t_p=8/20\mu\text{s}$ )@25°C | $I_{pp}$  | -    | 8    | A    |
| ESD (IEC61000-4-2 air discharge) @25°C            | $V_{ESD}$ | -    | ±25  | kV   |
| ESD (IEC61000-4-2 contact discharge) @25°C        | $V_{ESD}$ | -    | ±25  | kV   |
| Junction temperature                              | $T_J$     | -    | 125  | °C   |
| Operating temperature                             | $T_{OP}$  | -40  | 125  | °C   |
| Storage temperature                               | $T_{STG}$ | -55  | 150  | °C   |
| Lead temperature                                  | $T_L$     | -    | 260  | °C   |



Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)

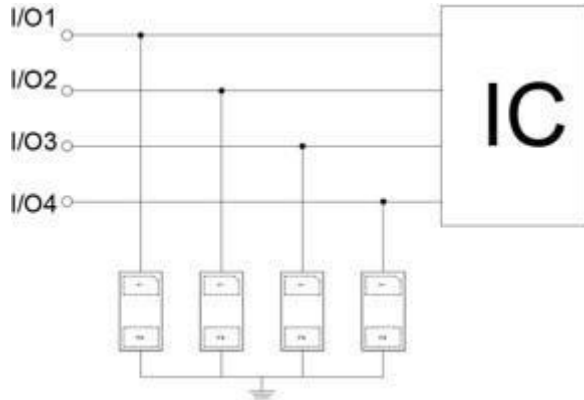
| Parameter                 | Symbol    | Conditions                                 | MIN. | Typ. | MAX. | Units         |
|---------------------------|-----------|--|------|------|------|---------------|
| Reverse Stand-off Voltage | $V_{RWM}$ |  |      |      | 5.0  | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1\text{mA}$                           | 5.6  |      |      | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=5\text{V}$                        |      |      | 1    | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$     | $I_{PP}=1\text{A}; t_p=8/20\mu\text{s}$    |      | 8.0  |      | V             |
| Clamping Voltage          | $V_C$     | $I_{PP}=8\text{A}; t_p=8/20\mu\text{s}$    |      | 10.0 |      | V             |
| Junction Capacitance      | $C_J$     | I/O to GND; $V_R=0\text{V}; f=1\text{MHz}$ |      | 12   |      | pF            |

Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



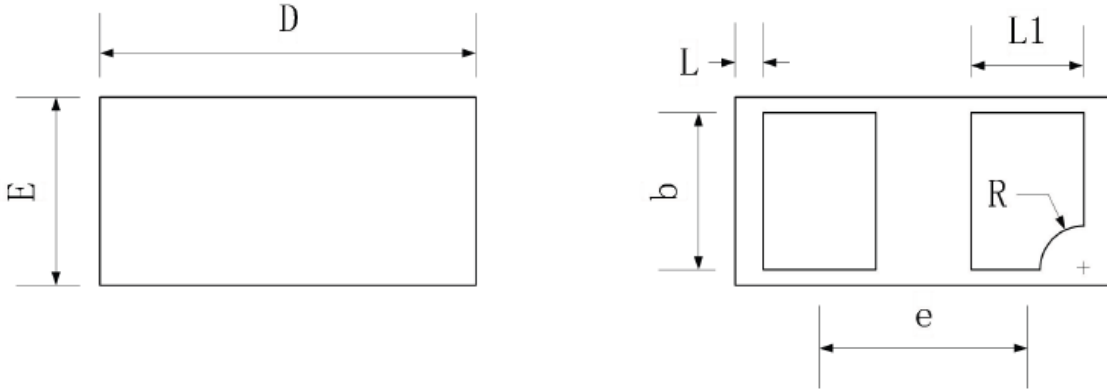
Applications Information

Typical Interface Application





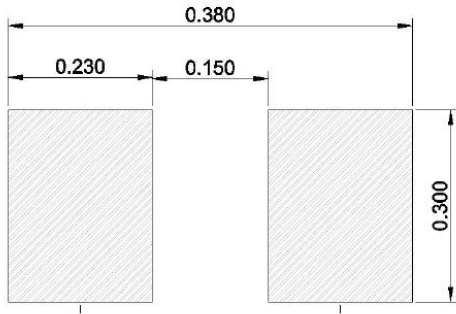
Package Outline Drawing



Units in millimeters

| Symbol | Min      | Nom   | Max   |
|--------|----------|-------|-------|
| D      | 0.570    | 0.600 | 0.635 |
| E      | 0.270    | 0.300 | 0.330 |
| b      | 0.210    | 0.250 | 0.280 |
| e      | 0.350BSC |       |       |
| L      | 0.030    | 0.045 | 0.060 |
| L1     | 0.180REF |       |       |
| R      | 0.050    | 0.076 | 0.150 |

Recommended Land Pattern



Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference only

Revision history of Specification

| Version | Change Items    | Effective Date |
|---------|-----------------|----------------|
| 1.0     | Initial Release | 10-July-2021   |
|         |                 |                |