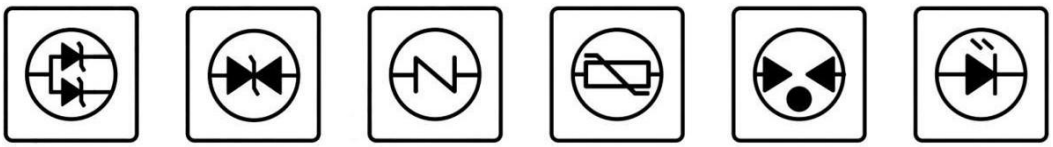
MSKSEMI 美森科
SEMICONDUCTOR




# ESDA14V2L-MS

## Product specification

## Features

- 150 Watts peak pulse power (tp = 8/20μs)
- Unidirectional and unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection two data lines:
- IEC 61000-4-2 ±8kV contact ±15kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 10A (8/20μs)

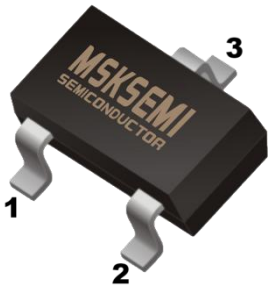
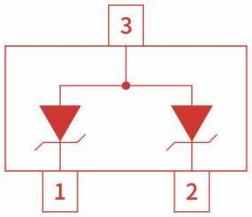
## Application

- Dataline
- Automatic Teller Machines
- Net works
- Power line

## Mechanical Data

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Reference News

| PACKAGE OUTLINE | Schematic&PINConfiguratio | Marking |
|---|---|---|
|  |  | EL15 |
| SOT-23 | | |

## Absolute Maximum Rating

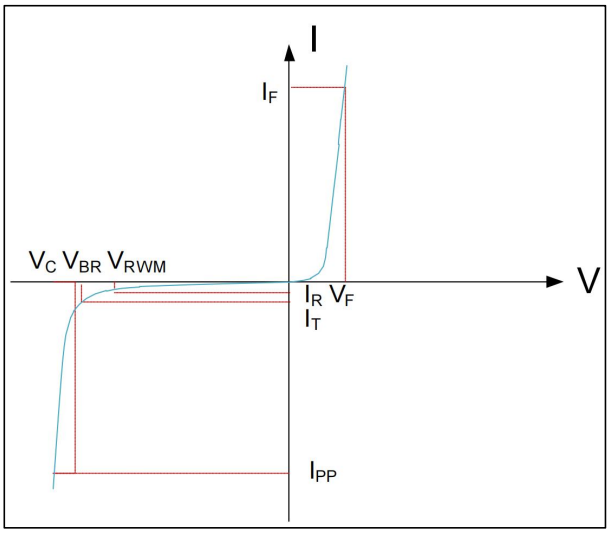
| Rating | Symbol | Value | Units |
|---|---|---|---|
| Peak Pulse Power ( $t_p$=8/20μs ) | $P_{PP}$ | 150 | Watts |
| Peak Pulse Current ( $t_p$=8/20μs ) (note1) | Ipp | 10 | A |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | 15<br>8 | kV |
| Lead Soldering Temperature | $T_L$ | 260(10seconds) | ℃ |
| Junction Temperature | $T_J$ | -55 to + 125 | ℃ |
| Storage Temperature | $T_{stg}$ | -55 to + 125 | ℃ |

## Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---|---|---|---|---|---|---|
| Reverse Stand-Off Voltage | $V_{RWM}$ | | | | 14 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_T$=1mA | 16 | | | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$=5V,T=25℃ | | | 1.0 | μA |
| Peak Pulse Current | $I_{PP}$ | tp =8/20μs | | | 5 | A |
| Clamping Voltage | $V_C$ | $I_{PP}$=10A,$t_p$=8/20μs | | | 30 | V |
| Junction Capacitance | $C_j$ | $V_R$= 0V, f= 1MHz<br>（PIN1 to PIN3） | | | 60 | pF |

## Electrical Parameters (TA = 25°C unless otherwise noted)

| Symbol | Parameter |
|---|---|
| PP | Maximum Reverse Peak Pulse Current |
| C | Clamping Voltage @ IPP |
| RWM | Working Peak Reverse Voltage |
| R | Maximum Reverse Leakage Current @ VRWM |
| BR | Breakdown Voltage @ IT |
| T | Test Current |
| | |
| | |



## Typical Characteristics

**Figure 1: Peak Pulse Power vs. Pulse Time**

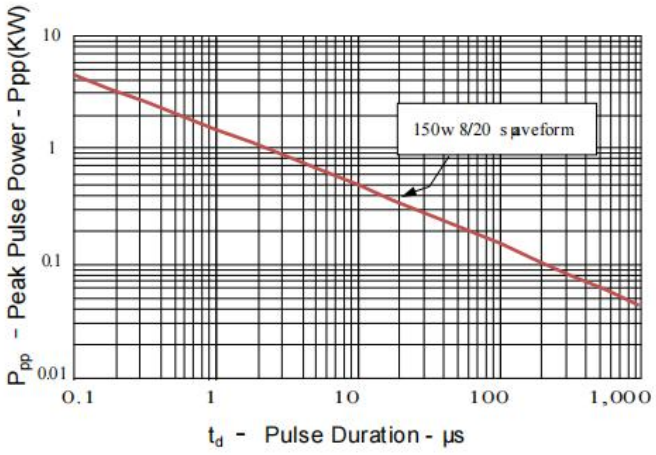



**Figure 2: Power Derating Curve**

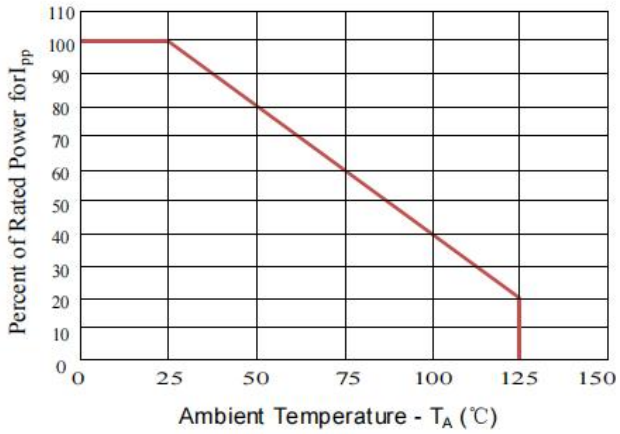



**Figure3: Pulse Waveform**

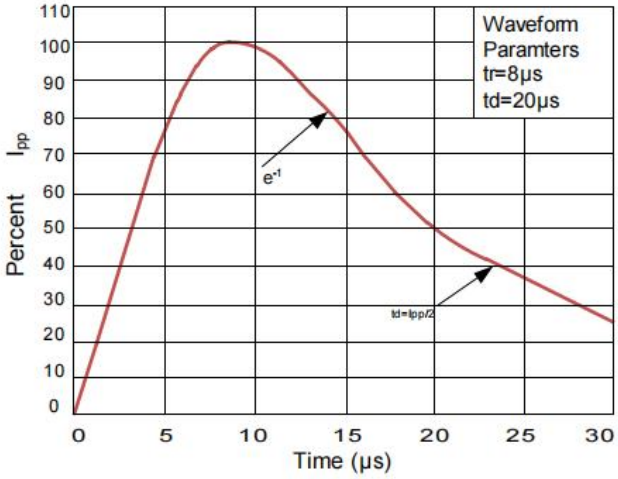
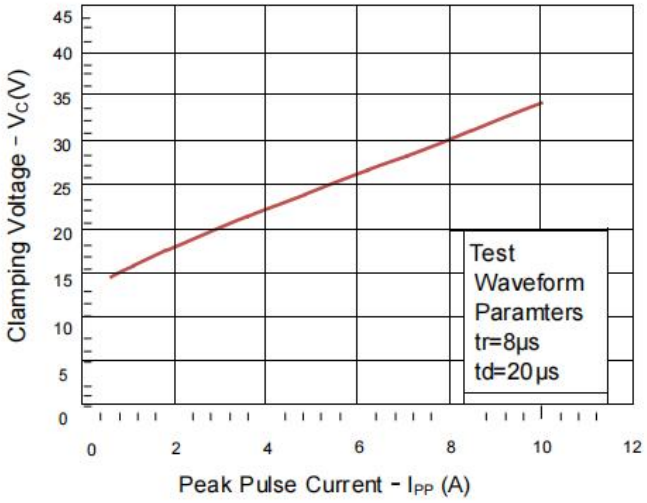
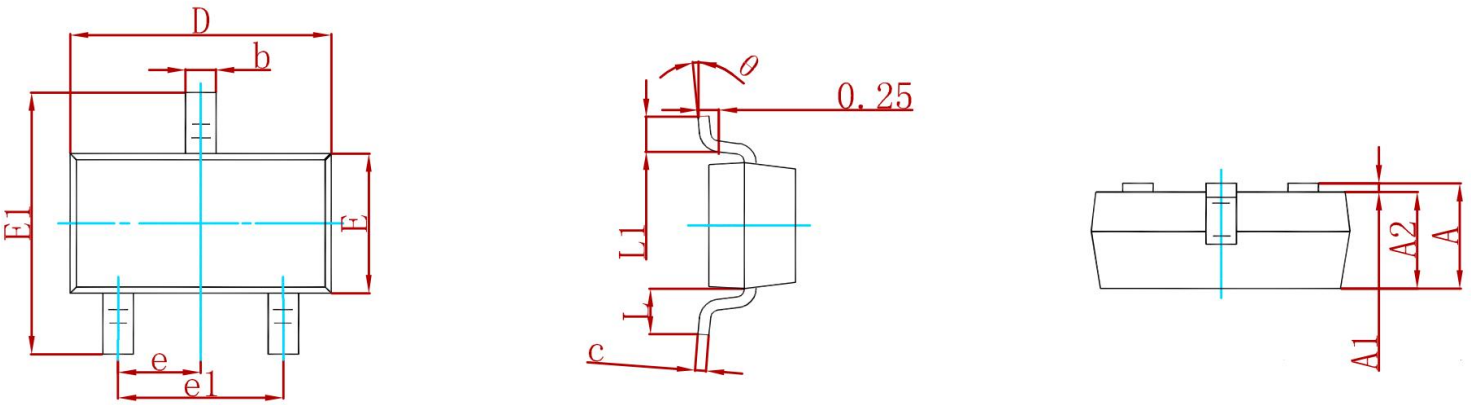



**Figure 4: Clamping Voltage vs.Ipp**

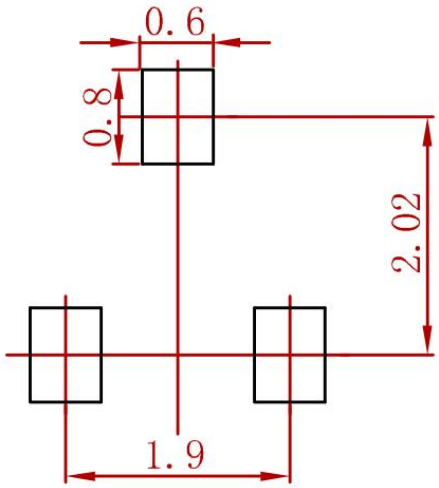


## PACKAGE MECHANICAL DATA




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

## Suggested Pad Layout




Note:

1.Controlling dimension:in millimeters.

2.General tolerance:±0.05mm.

3.The pad layout is for reference purposes only.

## REEL SPECIFICATION

| P/N | PKG | QTY |
|---|---|---|
| ESDA14V2L-MS | SOT-23 | 3000 |

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