

ESDA6V1W5

Transil array for data protection

Description

The ESDA6V1W5 is monolithic suppressor designed to protect components connected to data and transmission lines against ESD. This device clamps the voltage just above the logic level supply for positive transients and to a diode drop below ground for negative transients.

Features

- 4 Unidirectional Transil functions
- Low leakage current: < 1 μ A
- Very small PCB area < 4.2 mm² typically
- High integration
- RoHS Compliant Package

Application

- Computers
- Printers
- Communication systems
- Cellular phones handsets and accessories
- Wireline and wireless telephone sets
- Set top boxes

Complies with the following standards

- IEC61000-4-2
- Level 4 15 kV (air discharge)
8 kV(contact discharge)
- MIL STD 883E - Method 3015-7 Class 3
- 25 kV HBM (Human Body Model)

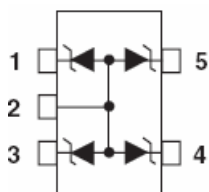
Packing & Order Information

3,000/Reel

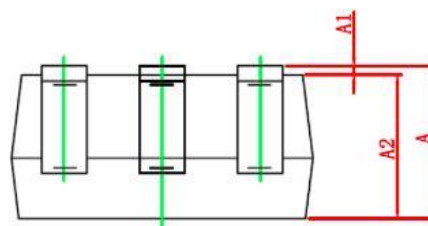
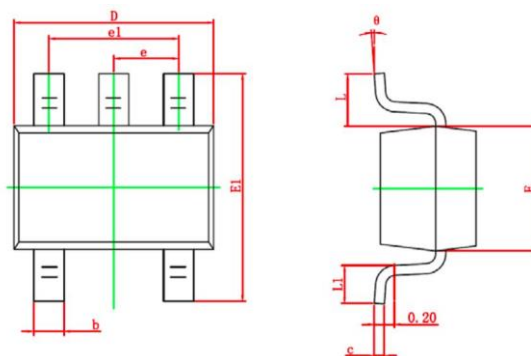


**RoHS
COMPLIANT**

Graphic symbol



SOT-353package



| Symbol | Dimensions in Millimeters | | Dimensions in Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.150 | 0.350 | 0.006 | 0.014 |
| c | 0.008 | 0.150 | 0.003 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.450 | 0.085 | 0.096 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| theta | 0° | 8° | 0° | 8° |

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Absolute Ratings (Tamb=25°C)

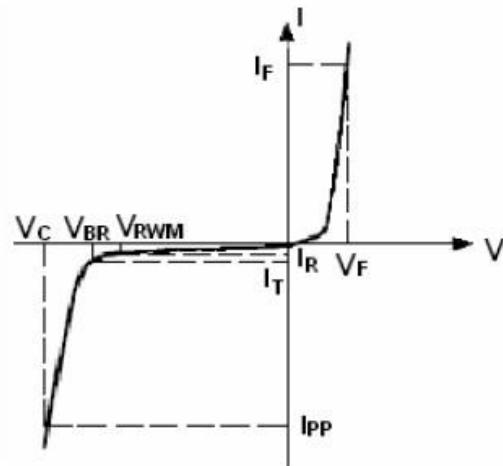
| Symbol | Parameter | Value | Unit |
|------------------|---|-------------|------|
| Ppp | Peak Pulse Power (tp = 8/20μs) | 150 | W |
| T _J | Maximum lead temperature for soldering during 10s | 260 | °C |
| T _{STG} | Storage Temperature Range | -40 to +125 | °C |
| T _{OP} | Operating Temperature Range | -40 to +125 | °C |

Electrical Characteristics

| Part Numbers | V _{BR} | | | I _T | V _{RWM} | I _R | V _F | I _F | C |
|--------------|-----------------|------|------|----------------|------------------|----------------|----------------|----------------|--------------------|
| | Min. | Typ. | Max. | | | | Max. | | |
| | V | V | V | | | | V | | |
| ESDA6V1W5 | 6.1 | 6.7 | 7.2 | 1 | 5 | 1 | 1.25 | 200 | 35 Typ. 0v bias |

1. Square pulse IPP=15A, tp=2.5μs 2. V=aT*(T-25°C)*V(25°C)

| Symbol | Parameter |
|------------------|--|
| I _{PP} | Maximum Reverse Peak Pulse Current |
| V _C | Clamping Voltage @ I _{PP} |
| V _{RWM} | Working Peak Reverse Voltage |
| I _R | Maximum Reverse Leakage Current @ V _{RWM} |
| I _T | Test Current |
| V _{BR} | Breakdown Voltage @ I _T |
| I _F | Forward Current |
| V _F | Forward Voltage @ I _F |



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Typical Device Characteristics

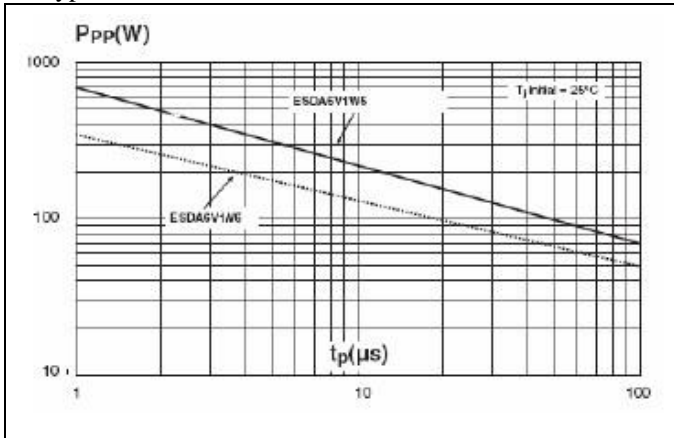


FIG.1-PEAK PULSE POWER VERSUS EXPONENTIAL PULSE DURATION (T_J INITIAL=25°C)

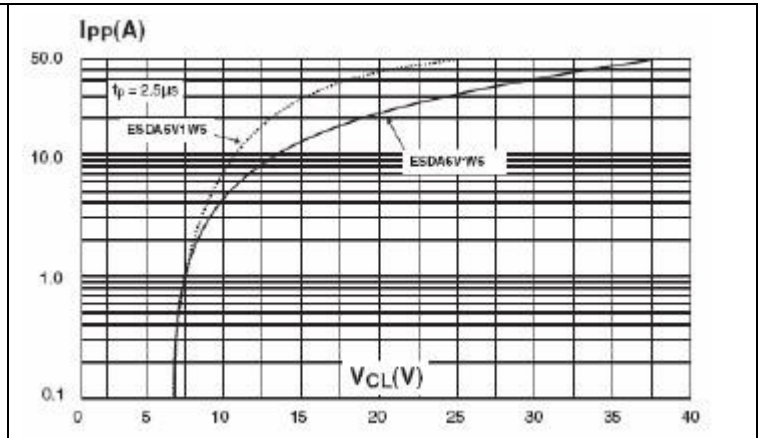


FIG.2-CLAMPING VOLTAGE VERSUS PEAK PULSE CURRENT (T_J INITIAL=25°C, RECTANGULAR WAVEFORM, $T_P=2.5\mu s$)

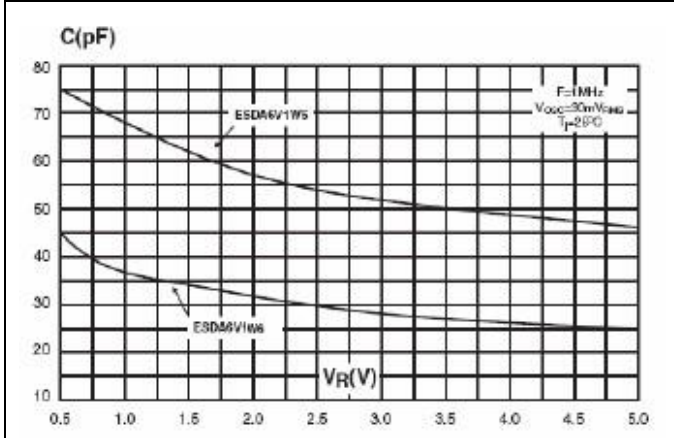


FIG.3-CAPACITANCE VERSUS REVERSE APPLIED VOLTAGE

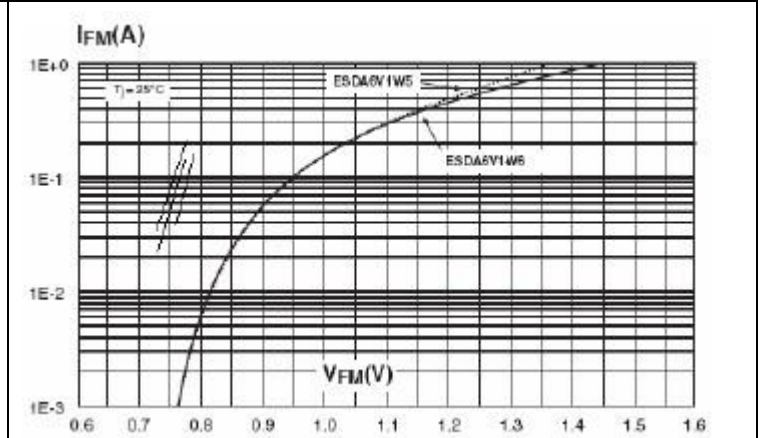


FIG.4-PEAK FORWARD VOLTAGE DROP VERSUS FORWARD CURRENT

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