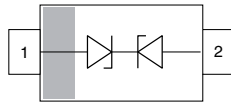
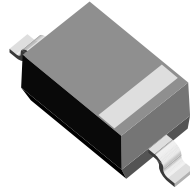


Low Capacitance, Single-Line ESD Protection Diode in SOD-323



20503



22756 SOD-323

FEATURES

- For LIN-bus applications
- Small SOD-323 package
- 1-line ESD protection
- Working range: ± 16 V
- Low leakage current $I_R < 0.05 \mu\text{A}$
- Low load capacitance $C_D < 24$ pF
- ESD protection acc. IEC 61000-4-2
 ± 30 kV contact discharge
 ± 30 kV air discharge
- ESD capability according to AEC-Q101:
human body model: class H3B: > 8 kV
- e3 - pins plated with tin (Sn)
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MARKING (example only)



XYZ = type code (see table below)
bar = pin 1

DESIGN SUPPORT TOOLS click logo to get started

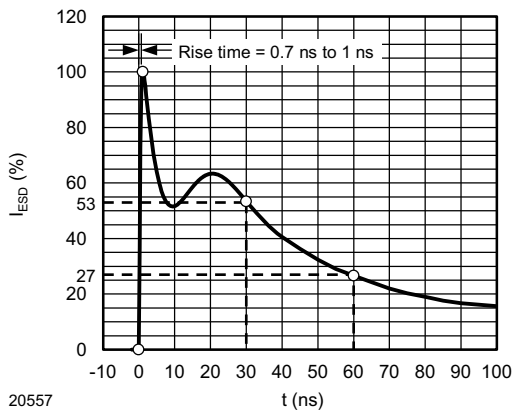
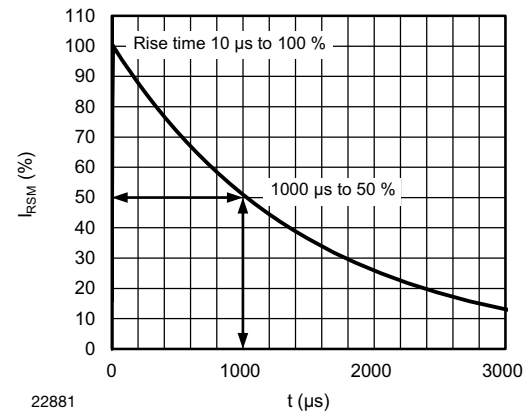
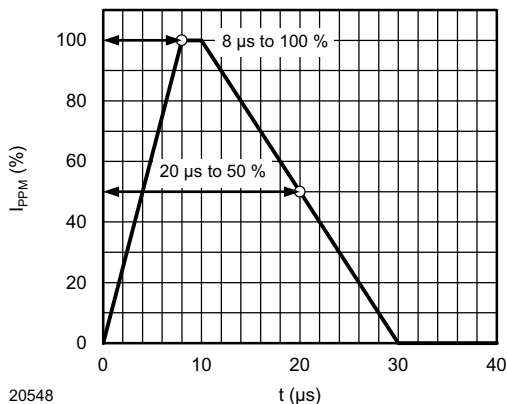
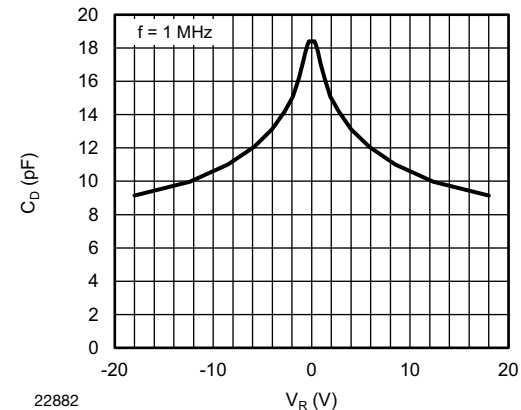


| ORDERING INFORMATION | | | | | | | |
|-----------------------|--------------------------------|--|-------|----------------|--|--|-------------------------|
| PART NUMBER (EXAMPLE) | ENVIRONMENTAL AND QUALITY CODE | | | PACKAGING CODE | | | ORDERING CODE (EXAMPLE) |
| | AEC-Q101 QUALIFIED | RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS | | TIN PLATED | 3K PER 7" REEL (8 mm TAPE) 15K/BOX = MOQ | 10K PER 13" REEL (8 mm TAPE) 10K/BOX = MOQ | |
| | | STANDARD | GREEN | | | | |
| VLIN1616-02G | - | E | - | 3 | -08 | - | VLIN1616-02G-E3-08 |
| VLIN1616-02G | H | E | - | 3 | -08 | - | VLIN1616-02GHE3-08 |
| VLIN1616-02G | - | E | - | 3 | - | -18 | VLIN1616-02G-E3-18 |
| VLIN1616-02G | H | E | - | 3 | - | -18 | VLIN1616-02GHE3-18 |

| PACKAGE DATA | | | | | | |
|--------------|--------------|-----------|---------|--------------------------------------|-----------------------------------|------------------------------|
| DEVICE NAME | PACKAGE NAME | TYPE CODE | WEIGHT | MOLDING COMPOUND FLAMMABILITY RATING | MOISTURE SENSITIVITY LEVEL | SOLDERING CONDITIONS |
| VLIN1616-02G | SOD-323 | 161 | 4.30 mg | UL 94 V-0 | MSL level 1 (according J-STD-020) | Peak temperature max. 260 °C |

| ABSOLUTE MAXIMUM RATINGS | | | | | |
|--------------------------|---|--|-----------|-------------|------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | VALUE | UNIT |
| Peak pulse current | $T_A = 25$ °C; acc. IEC 61000-4-5; $t_p = 8/20$ μs ; single shot | | I_{PPM} | 6 | A |
| Peak pulse power | $T_A = 25$ °C; acc. IEC 61000-4-5; $t_p = 8/20$ μs ; single shot | | P_{PP} | 200 | W |
| ESD immunity | Contact discharge acc. IEC 61000-4-2; 10 pulses; $T_A = 25$ °C | | V_{ESD} | ± 30 | kV |
| | Air discharge acc. IEC 61000-4-2; 10 pulses; $T_A = 25$ °C | | | ± 30 | kV |
| Operating temperature | Junction temperature | | T_J | -55 to +150 | °C |
| Storage temperature | | | T_{STG} | -55 to +150 | °C |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|--|---------------|------|------|------|---------------|
| PARAMETER | TEST CONDITIONS / REMARKS | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Protection paths | Number of lines which can be protected | $N_{channel}$ | - | - | 1 | lines |
| Reverse stand-off voltage | Max. reverse working voltage | V_{RWM} | - | - | 16 | V |
| Reverse voltage | At $I_R = 0.05\text{ }\mu\text{A}$ | V_R | 16 | - | - | V |
| Reverse current | At $V_{RWM} = 16\text{ V}$ | I_R | - | - | 0.05 | μA |
| Reverse breakdown voltage | At $I_R = 1\text{ mA}$ | V_{BR} | 17.1 | 18.6 | 20 | V |
| Reverse clamping voltage | At $I_{PP} = 1\text{ A}$; $t_p = 8/20\text{ }\mu\text{s}$ | V_C | - | 22 | 25 | V |
| | At $I_{PP} = I_{PPM} = 6\text{ A}$; $t_p = 8/20\text{ }\mu\text{s}$ | V_C | - | 29 | 33 | V |
| Capacitance | At $V_R = 0\text{ V}$, $f = 1\text{ MHz}$ | C_D | - | 18 | 24 | pF |

TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

 Fig. 1 - ESD Discharge Current Wave Form
acc. IEC 61000-4-2 (330 Ω / 150 pF)

 Fig. 3 - 10/1000 μs Peak Pulse Current Wave Form

 Fig. 2 - 8/20 μs Peak Pulse Current Wave Form
acc. IEC 61000-4-5

 Fig. 4 - Typical Capacitance C_D vs. Reverse Voltage V_R

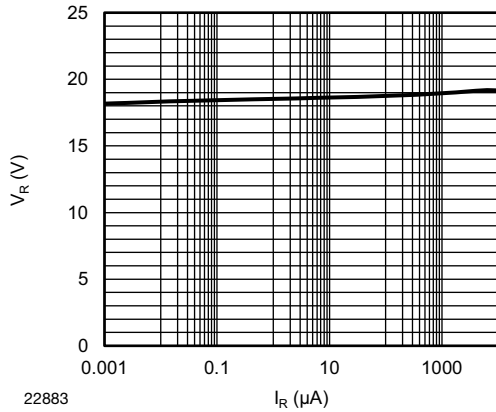


Fig. 5 - Typical Reverse Voltage V_R vs. Reverse Current I_R

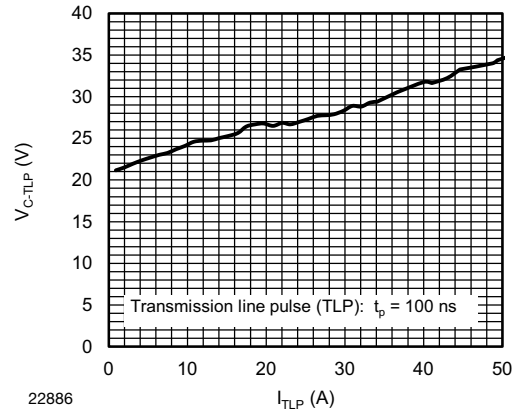


Fig. 8 - Typical Clamping Voltage V_{C-TLP} vs. Pulse Current I_{TLP}

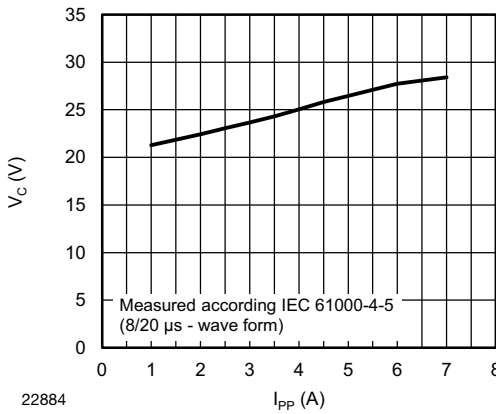


Fig. 6 - Typical Peak Clamping Voltage V_C vs. Peak Pulse Current I_{PP}

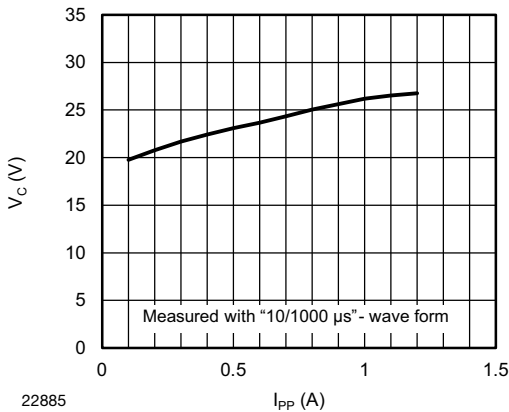
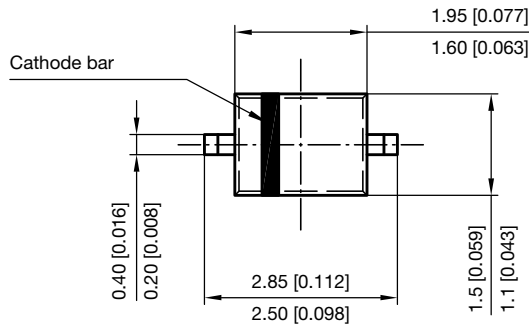
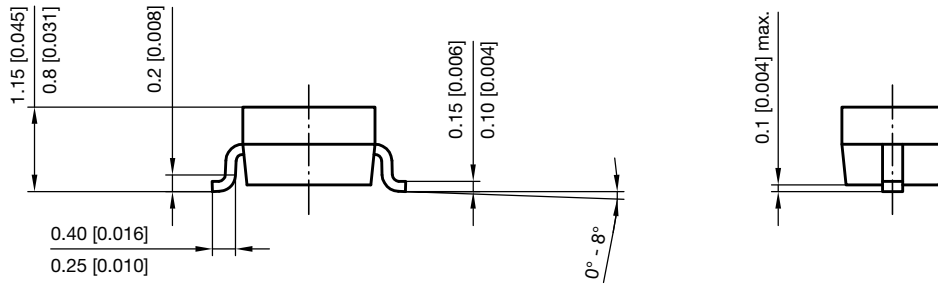


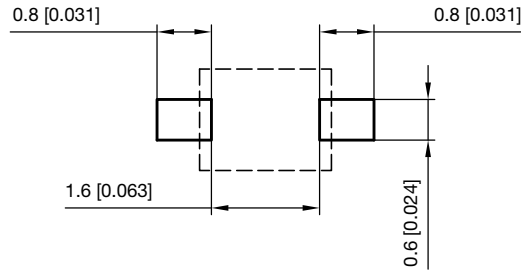
Fig. 7 - Typical Peak Clamping Voltage vs. Peak Pulse Current (10/1000 μ s)



PACKAGE DIMENSIONS in millimeters (inches) SOD-323



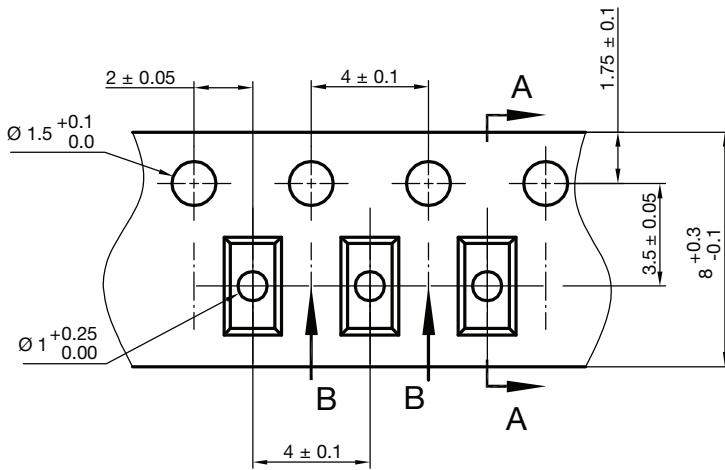
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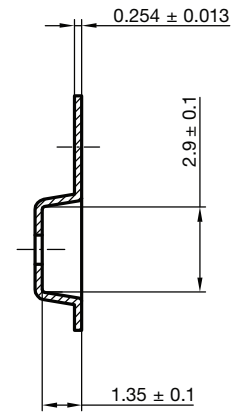
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 Rev. 6 - Date: 23.Sept.2016
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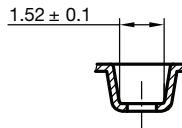
CARRIER TAPE SOD-323



A-A Section

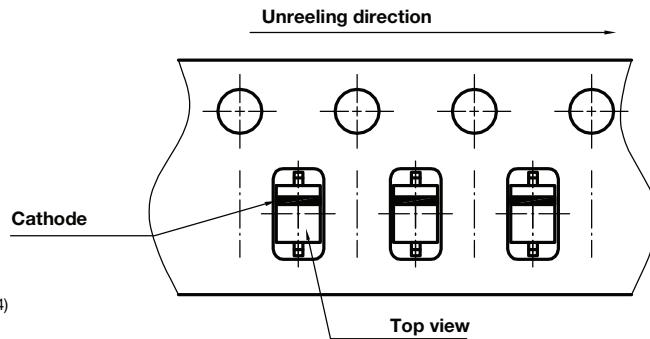


B-B Section



Document no.: S8-V-3717.07-002 (4)
Created - Date: 09. Feb. 2010
22824

ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)
Created - Date: 09. Feb. 2010
22772



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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