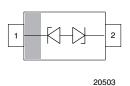


Vishay Semiconductors

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





22756 SOD-323

MARKING (example only)



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

LINKS TO ADDITIONAL RESOURCES



VLIN1626-02G



FEATURES

- For LIN-Bus applications
- Small SOD-323 package
- Working range: -16 V; +26.5 V
- Low leakage current I_R < 0.05 μA
- Low load capacitance C_D < 18 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)
- 1-line ESD-protection
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

-18

VLIN1626-02GHE3-18

| ORDERING INFORMATION | | | | | | | | |
|-----------------------------|--------------------------------|--|-------|---------------|-------------------------------|---------------------------------|----------------------------|--|
| PART NUMBER (EXAMPLE) | ENVIRONMENTAL AND QUALITY CODE | | | | PACKAG | ING CODE | | |
| | AEC-Q101 QUALIFIED | RoHS-COMPLIANT + LEAD (Pb)-FREE TERMINATIONS | | TIN PLATED | 3K PER 7" REEL (8 mm TAPE) | 10K PER 13" REEL (8 mm TAPE) | ORDERING CODE (EXAMPLE) | |
| | | STANDARD | GREEN | PLATED | 15K/BOX = MOQ | 10K/BOX = MOQ | | |
| VLIN1626-02G | - | E | - | 3 | -08 | - | VLIN1626-02G-E3-08 | |
| VLIN1626-02G | Н | Е | - | 3 | -08 | = | VLIN1626-02GHE3-08 | |
| VLIN1626-02G | - | E | - | 3 | - | -18 | VLIN1626-02G-E3-18 | |

| PACKAGE DATA | | | | | | | |
|--------------|-----------------|--------------|---------|--------------------------------------|-----------------------------------|------------------------------|--|
| DEVICE NAME | PACKAGE NAME | TYPE CODE | WEIGHT | MOLDING COMPOUND FLAMMABILITY RATING | MOISTURE SENSITIVITY LEVEL | SOLDERING CONDITIONS | |
| VLIN1626-02G | SOD-323 | 6A1 | 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 | Pin 1 to pin 2; $T_A = 25$ °C, acc. IEC 61000-4-5; $t_p = 8/20 \mu s$; single shot | | 6 | А | | | |
| | Pin 2 to pin 1; $T_A = 25$ °C, acc. IEC 61000-4-5; $t_p = 8/20 \mu s$; single shot | I _{PPM} | 4 | | | | |
| Peak pulse power | $T_A = 25$ °C, acc. IEC 61000-4-5; $t_p = 8/20 \mu s$; single shot | P_{PP} | 200 | W | | | |
| FCD iit. | Contact discharge acc. IEC 61000-4-2; 10 pulses, T _A = 25 °C | V | ± 30 | kV | | | |
| ESD immunity | Air discharge acc. IEC 61000-4-2; 10 pulses, T _A = 25 °C | V_{ESD} | ± 30 | | | | |
| Operating temperature | Junction temperature | TJ | -55 to +150 | °C | | | |
| Storage temperature | | T _{STG} | -55 to +150 | | | | |



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| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °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 | | |
| Davaras stand off valtage | Pin 1 to pin 2; max. reverse working voltage | V _{RWM} | ı | - | 16 | V | | |
| Reverse stand-off voltage | Pin 2 to pin 1; max. reverse working voltage | VRWM | - | - | 26.5 | | | |
| Devision with an | Pin 1 to pin 2; at I _R = 0.05 μA | V | 16 | - | - | V | | |
| Reverse voltage | Pin 2 to pin 1; at I _R = 0.05 μA | V_R | 26.5 | - | | | | |
| Devenue evenuent | Pin 1 to pin 2; at V _{RWM} = 16 V | | - | - | 0.05 | μА | | |
| Reverse current | Pin 2 to pin 1; at V _{RWM} = 26.5 V | I _R | - | - | 0.05 | | | |
| Povorce brookdown voltage | Pin 1 to pin 2; at I _R = 1 mA | V | 17.1 | 18.7 | 20.3 | V | | |
| Reverse breakdown voltage | Pin 2 to pin 1; at I _R = 1 mA | V_{BR} | 28 | 30 | 32 | | | |
| | Pin 1 to pin 2; at I _{PP} = 1 A; t _p = 8/20 μs | | - | 22 | 25 | . V | | |
| Deverse elemening veltage | Pin 1 to pin 2; at $I_{PP} = 6 \text{ A}$; $t_p = 8/20 \mu\text{s}$ | V | - | 29 | 33 | | | |
| Reverse clamping voltage | Pin 2 to pin 1; at I _{PP} = 1 A; t _p = 8/20 μs | V _C | - | 32 | 40 | | | |
| | Pin 2 to pin 1; at I _{PP} = 4 A; t _p = 8/20 μs |] | - | 39 | 50 | | | |
| Capacitance | At $V_R = 0 V$, $f = 1 MHz$ | C _D | - | 15.5 | 18 | pF | | |

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

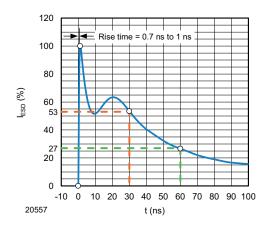


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω / 150 pF)

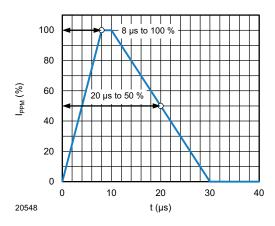


Fig. 2 - 8/20 µs Peak Pulse Current Wave Form acc. IEC 61000-4-5

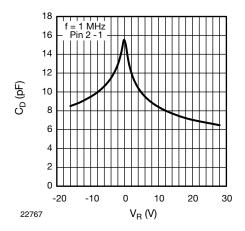


Fig. 3 - Typical Capacitance C_{D} vs. Reverse Voltage V_{R}

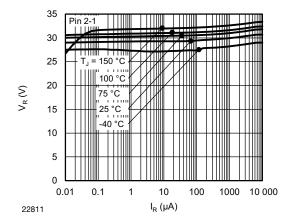


Fig. 4 - Typical Reverse Voltage $V_{\mbox{\scriptsize R}}$ vs. Reverse Current $I_{\mbox{\scriptsize R}}$



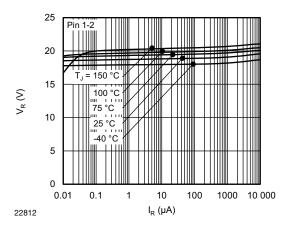


Fig. 5 - Typical Reverse Voltage V_R vs. Reverse Current I_R

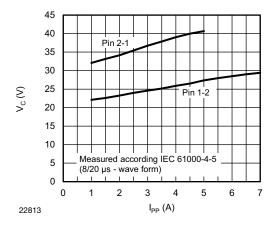


Fig. 6 - Typical Peak Clamping Voltage $V_{\rm C}$ vs. Peak Pulse Current $I_{\rm PP}$

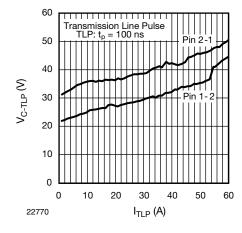


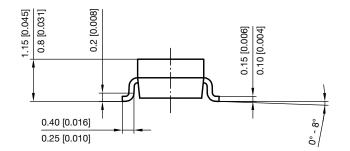
Fig. 7 - Typical Clamping Voltage $V_{\text{C-TLP}}\ \text{vs.}$ Pulse Current I_{TLP}

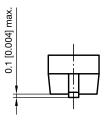


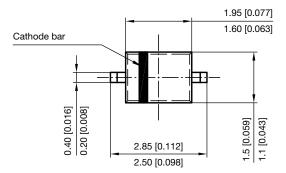
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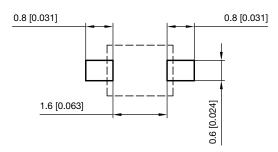
PACKAGE DIMENSIONS in millimeters (inches) SOD-323







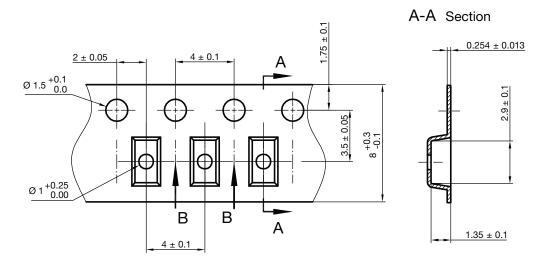
Footprint recommendation:



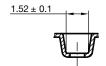
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CARRIER TAPE SOD-323



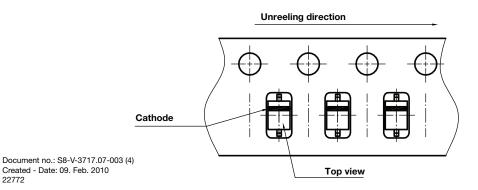
B-B Section



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ORIENTATION IN CARRIER TAPE SOD-323





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